

Particles. They are distinguished from the Ochres by their firmer Structure, and by their being less easily diffusible in Water.

These are a kind of Earths the least of all others likely to have been introduced into Medicine; and which the Ancients, though very well acquainted with in their Uses in the common Occasions of Life, have not indeed left much in Praise of on any other Account: There are three of them however, the Names of which occur in their Writings, as Ingredients in their Dentrifices, and sometimes as Astringents and Desiccatives, which therefore are not to be wholly omitted here.

These are, 1. The *Creta Argentaria*, or Silver Chalk. 2. The *Tripela Flavescens*, or common Tripela; and, 3. The *Terra Melia*, or Melian Earth of *Dioscorides*.

CHAPTER I.

CRETA ARGENTARIA, *Silver Chalk.*

THIS is an Earth very well known at this Time in many Parts of the World, and which the Ancients were very well acquainted with, though some of the late Writers, who have mentioned the Name of it, have misrepresented their Meaning.

It is not a Species of Chalk, as its Name, which stands upon no better a Foundation than the Authority of *Pliny*, might induce us to believe; but a true and genuine Tripela, much approaching to the common yellowish Tripela, though so very different from it in Colour.

It is of a somewhat loose and friable Texture, and of a perfectly white Colour; while in the Earth it is naturally dry and shattery and falls into flat Pieces, which afterwards divide again in that, much more freely than in any other Direction: This is owing to its laminated Structure, it not being form'd into one solid and equal Mass in the manner of many of the other Earths, but composed of a Number of flat Plates or Flakes laid evenly over one another, and disposed in several short Ranges, not running regularly to any great Extent. We meet with it in Pieces of no great Size, of a fine chalky white Colour, of rough dusty Surfaces, staining the Hands on rubbing them, and easily mouldering into Powder between the Fingers, though the separated Particles feel very harsh and gritty. Apply'd to the Tongue it adheres slightly to it, and if taken into the Mouth it readily breaks into coarse Powder, tasting like that of the Pumice-Stone, but with no sandy Particles in it: Thrown into Water it makes a slight hissing Noise, and immediately breaks into a Number of small and thin Flakes, and from these moulders soon after into a very white Powder. The strongest Acids have no Effect upon it, and if calcined in a violent Fire it comes out with no other Change than a little additional Hardness, and a finer and purer white Colour.

The Ancients had it from the *Archipelago*, where it is still found in the Cliffs of some of the Islands. It is very frequent also at this Time in *Prussia*, and is in common Use there for cleaning Silver. The Ancients used it for the same Purpose also, but they introduced it also into their Compositions for cleaning the
Teeth,

Teeth, and after grinding it to as fine a Powder as they could they sometimes sprinkled it on old Ulcers as a Desiccative. At present it is known in neither of these Intentions.

CHAPTER II.

TRIPELA FLAVESCENS, *Yellowish Tripela.*

THIS is an Earth, whatever its Value in Medicine may be, very worthy to be better known among us than it is at present on many other Occasions. It is the Earth described by Authors under the Name of *Tripela Vulgaris*, *Tripolitana Terra* and *Alana Gleba*.

It is a very beautiful and pure Earth, naturally dry, of a dusty Surface, and of a pale whitish yellow Colour. It is not very heavy, yet of a firm and dense Structure. It is something softer while in the Earth than when it has been some time taken up, and is there of a tolerably strong Yellow, though it loses so much of it in the keeping that some Pieces are of a brownish White, with very little Remains of yellow in them. When apply'd to the Tongue it adheres slightly to it, and if taken into the Mouth it remains whole a long Time in it; at length however it will break into a harsh though tolerably fine Powder, the Particles of which though they are hard, yet are not gritty like Sand between the Teeth. Thrown into Water it makes a slight Ebullition and hissing Noise, but it lies a long Time before it breaks or moulders into Powder. Thrown into the strongest Acids it does not raise the slightest Effervescence with them, and if calcined in a moderate Fire it becomes of a pale red Colour, but retains the same Degree of Hardness it had before.

It sometimes forms whole Strata in the Earth, but it is more frequently found in detached Masses in other Strata. It is most plentifully produced in *Africa*, though there is a great deal of it found in the *German* and *Saxon* Mines.

It is used in the cleaning of Metals, and in the polishing of Gems; our Lapidaries for want of it are forced to use a much worse Substance, rotten Stone, though it might be had in sufficient Plenty if any Body would be at the Pains of sending to *Germany* for it.

Some Authors recommend it as a Desiccative and Astringent, but it is not now known in any such Intentions.

CHAPTER III.

TERRA MELIA DIOSCORIDIS, *The Melian Earth of Dioscorides.*

THE Substance described by this Author under the Name of *Terra Melia*, is extremely different from the *Terra Melia* of *Theophrastus*, and the *Melimum* of the Ancients in general. That was a Species of Marl described in its proper Place, and used by the Painters; this a true and genuine Tripela, and by no means fit for any such Purposes. It is a very harsh Earth, of a dry and gritty Nature, and of a lax friable Texture. It is of a whitish Colour with

244 MELIAN EARTH of DIOSCORIDES.

an Admixture of a pale Grey in it, remarkably heavy, and easily rubbing to Powder between the Fingers ; but that Powder is so sharp that it hurts them if rubb'd very strongly between them. It does not stain the Hands though the dusty Matter of its Surface falls off with the slightest Touch. Apply'd to the Tongue it adheres tolerably firm to it ; and if taken into the Mouth it very readily disunites and breaks in it, but the Powder it falls into is very harsh, and it leaves something of a styptic Taste like that of Alum behind it.

Thrown into Water it makes a very considerable Ebullition and hissing Noise, and after some Time moulders away into a white coarse Powder. It does not make the least Effervescence with Acids, nor suffer any visible Change in a moderate Fire. It was found in the Days of *Dioscorides* in the Islands of the *Archipelago*, where it is also frequent enough at this Time: We have it also in *England* in loose Masses, and usually among Strata of Gravel. It stands recommended as an Astringent, which indeed the Alum the *Grecian* Kind contains may give it a good Title to, but ours wants that Recommendation.

Dioscorides has excellently described it, and gives one very particular Character of it, which agrees very well both with the *Grecian* and *English* Kind found at this Time, though to no other Earth in the World ; which is, that being rubb'd between the Fingers it yields a grating Sound like that made by scraping Pumice.

I have separated a Scruple of Alum from an Ounce and half of the *Grecian* Kind, but the *English*, though perfectly the same in all other Respects, will not yield a Grain of it ; this however is not wonderful, since where there is Plenty of Alum in the Earth it insinuates itself into almost every thing.



F O S S I L E B O D I E S

Used in M E D I C I N E.

CLASS the SEVENTH.

S T O N E S.

THE Class of medicinal Fossils distinguished from the Metals, Semi-metals, Salts, Sulphurs, Bitumens and Earths, under the Name of *Stones*, is of the Number of the more comprehensive ones; but the Bodies which belong to it are in general of a much inferior Value in Medicine to those of all the former Classes, and furnish scarce any Preparations to the Shops.

We understand by the Term *Stones* fossile Bodies solid, not ductile under the Hammer, fix'd in the Fire, not easily melted in it, and not to be dissolved by Water.

The Bodies of this Class are naturally arranged under two distinct Series, the one containing the softer, the other the more hard.

Of the softer Stones there are three general Distinctions,

1. The FOLIACEOUS or FLAKY, as *Talk*.
2. The FIBROSE, as the *Asbestus*.
3. The GRANULATED, as *Gypsum*.

Of the more hard and solid Stones, there are also three general Distinctions.

1. The OPAKE STONES, as *Lime-Stone*, &c.
2. The SEMI-PELLUCID, as *Agate*, &c.
3. The PELLUCID, as *Crystal* and the *Gems*.

STONES

S T O N E S

Used in M E D I C I N E

Of the foliated or flaky Kind.

Of the Bodies of this Kind we have only three in the Shops.

1. VENETIAN TALK. 2. MUSCOVY TALK. 3. SELENITES.

C H A P T E R I.

TALCUM VENETUM,
Venetian Talk.

THIS is a very pure and elegant fossile Substance of the softer foliated Kind, it is met with in the Shops in irregularly shaped Masses from the Bigness of a Horse Bean to that of a Man's Fist, and sometimes, tho' more rarely, to such as weigh several Pounds. It is of a very irregular Surface, full of Prominencies and Cavities, and of small flat Places, which look as if little Pieces had been cut off there. It is remarkably soft and smooth to the Touch, more so indeed than almost any other Fossil: it is considerably heavy, it breaks with a small Blow, and then shews its Structure better than on the Surface; examined where fresh broken it is extremely bright and glittering, and is found to be made up of a Multitude of thin and fine Flakes laid irregularly over one another, and these not extending singly over the whole Surface of the Mass, but small and arranged in an irregular Manner in it: In general the finest of these Flakes, for there is a great Variety in this Particular among those of the same Mass, are not broader than a Silver Penny, tho' there are Instances of some of more than an Inch in Diameter; these larger Flakes are of an extremely even, bright and glossy Surface, and may be split into a Multitude of thinner and finer ones with the Point of a Penknife, but the larger Part of them are small and less beautiful, a great Part of the Mass being usually composed of very minute and opaque ones of dull and dead Appearance: the whole Masses are of a beautiful blueish green Colour, with an Admixture of a silvery white; its finer Flakes, which are its purer Part, are the most silvery, and when separated are very transparent, but they have less Elasticity by far than the *Muscovy Talk*, and are not even flexible to any considerable Degree, but break in the Attempt; the rest of the Mass is greener, and is composed of small Fragments of the like Plates, which easily come off upon the Fingers in rubbing, and cover them with a Multitude of shining Scales, which render them extremely soft to the Touch of any other Part of the Skin.

It is not at all affected by Aqua Fortis or any other of the Acids, or indeed by any other known *Menstruum*; in the Fire it suffers no farther Alteration than the losing its greenish Colour and Brightness, coming out after a gentle Calcination perfectly white, and of a dull not a glossy Surface. *Geoffroy* says indeed that it does not lose its Colour by Calcination, but remains unaltered in the Fire, but Experiment proves the contrary; nay even the *Muscovy* Talk, which is much more difficultly affected by Fire than this, yet after a long Calcination loses its Pellucidity, and becomes perfectly opaque and of a silvery White.

This Kind of Talk is found very plentifully in many Parts of *Germany*, and in the *Alps* where it lies in Veins on the Surface of the Earth in many Places; the finest in the World is brought however from the Place from whence it has its Name, *Venice*. It is to be chosen in Masses not too large, for such are often foul within, but such as when broken appear bright and pure without any earthy or other Veins of a different Colour in them, and such as has the most of the silvery Appearance in it.

Talk is not used in Medicine, but the Fame of it among the Alchymists, and the Opinion the Ladies have of it as a Cosmetic, has always retained it a Place in the Shops.

It is difficultly powdered so as to bring it into a Condition to be fit for the Use of the Ladies; some do this by heating it red hot, and then grinding it in an Iron Mortar, made also almost red hot; but the better way is to heat it several times in a clear Fire and quench it hastily in Water; by this Means it is rendered friable, and after powdering in a common Mortar may be levigated to an extreme Fineness upon a Marble: this Powder has nothing of the Greenness of the original Matter, but is of a glossy and pearly white, extremely soft to the Touch, and gives a Smoothness to the Skin that nothing else equals it in.

The way of using it is either to rub the dry Powder on the Hands, or to mix it with Pomatum.

The Searchers after the Philosophers Stone have a great Opinion of an Oil of Talk, which they imagine, if they could obtain it, would convert Copper into Silver; but they do not see that the Authors who have led them into the Search never thought of the Substance they are endeavouring to obtain this Oil from, tho' they used its Name. What they mean by an Oil of Talk is an Oil produced by a long Process from a Solution of Zink in Vinegar, and this Oil when separated is found to be no other than the essential Oil of the Grape, from which the Wine was made that afforded afterwards the Vinegar; we need not add after this Account of what this famous Medicine is, that it will not do the Miracles ascribed to it.

CHAPTER II.

LAPIS SPECULARIS,
Muscovy Talk or Isinglass.

THIS is a Fossil well known for its many Uses, tho' the principal of these are not of the medicinal Kind; it is one of the purest and simplest of the natural Bodies, and more than almost any thing we know resists the Force of *Menstruums* and even of Fire.

It

It is composed of a Multitude of extremely thin, pellucid and beautiful Plates or Flakes of great Extent, each usually making the whole Surface of the Mass however large. It is generally found in flat and broad Masses, composed each of an infinite Number of these fine Plates, very smooth and glossy on the top and bottom, but often ridged and uneven at the Sides where the Edges of the several Plates are seen; sometimes however these are so evenly laid, and so well joined throughout the whole Substance, that they afford almost as even a Surface as the top and bottom. The Masses are frequently met with of six, eight, or ten Inches in Diameter, often more, and are from half an Inch to three Inches in Thickness; in these Masses it usually looks of a brownish or reddish Colour, but when the Plates are separated, as they easily may be, by only raising them at any one Edge with the Point of a Knife, they are perfectly colourless and are very bright and pellucid, more so indeed than the finest Glass: sometimes these Plates may be taken off regularly to the whole Extent of the Surface of the Mass, these are the most valuable Masses; in others there are Cracks at which the most careful Hand cannot prevent their breaking. The finest Plates we are able to separate this Talk into, are not its ultimate constituent ones, a Microscope still shews that even these might be divided into Multitudes of others. It is considerably heavy in the Mass, but it is not hard, but may be scratched at Pleasure with the Point of a Knife; it is not easily broke however otherwise than by splitting, for it is very tough and flexible, and has a remarkable Elasticity; the thinner Plates of it will bear to be wound several times round the Finger without breaking, and will immediately return to their original Flatness on being left at their Liberty.

This Fossil is not soluble in any known *Menstruum*, the most powerful Acids have no Effect on it, the Force of Fire is only able to rob it of its Transparency; it becomes of a silvery white and opaque, and more easily separates into Flakes after burning; but the Effect seems to end here, no other Change being producible in it by Fire.

It is found in great Abundance in *Muscovy* and *Persia*, the Island of *Cyprus* affords no small Quantity of it, and it has been discovered in the *Alps*, and *Apennines*, and in many of the Mountains in *Germany*: we hear of it in many other Places, but there is a Kind of *Selenites* very like it, which is often mistaken for it, and has occasioned Places to be named as producing it, where no Particle of it was ever found: the plated *Selenites*, which so much resembles it, is found in Abundance in the Plaister Pits near *Paris*, and in many of our own Clay Pits; it is flat and flaky like it, but it is distinguished from it, in that it will not split so easily, nor into such thin or broad Flakes, but cracks and shatters to Pieces; it is not elastic and it readily calcines in the Fire.

This Kind of Talk may be reduced to a fine white Powder by repeated Calcinations, and Immersions into cold Water, but it requires much more time and trouble than the *Venetian* Talk, and the Powder when produced is not so soft. There are some who recommend it in Epilepsies, and if any Credit be to be given to this, the Powder is the best Method of giving it, but we have no very authentick Account of any good ever having been done by it. It is used however in many of the Arts and Manufactures.

The Ancients have been acquainted with it from the earliest Times, and made their Windows of it instead of Glass; at present our Miniature Painters some-
times

times use it instead of Glafs before their Pictures: it is also sometimes used instead of Horn for Lanthorns; and the minute Bodies intended for Microscopic Observation are preserved between Plates of it.

This *Muscovite*, and the former *Venetian Talk*, are the only two Kinds that have a Place in the Shops; but we find the Chemical Writers mentioning two others beside them under the pompous Names of *Argyrolithos*, the Silver Stone, and *Talcum Solare*, or Golden Talk; these are Substances of the same Nature with the two former, known among the Writers of Fossils under the Names of *Micæ* and Catilver; they are only small Flakes or Spangles of Talk, of a bright glittering Hue, and accidentally tinged to a yellow or white Colour. People little acquainted with these things have been deceived by their Appearance into an Opinion of their containing the precious Metals whose Colours they emulate, but no Experiments have ever been able to produce a single Grain either of Gold, Silver, or any other Metal from them.

CHAPTER III.

SELENITES,

The Selenite, or Moonstone.

THE Species of *Selenites* used in Medicine is the common, thin, pellucid, rhomboidal Kind, tho' in all Probability, as the several Species of this whole Genus all agree in their constituent Matter, any one of them will answer the same Purposes as any other.

The thin and pellucid rhomboidal *Selenites* is a very singular and beautiful Fossil, it is perfectly pure from any extraneous Mixtures, except that little Masses of the Clay of the Strata in which it is found, are sometimes lodged between the Plates, but never mixed in their Substance; and it is ever of the same regular and determinate Figure, which is very like that of the Crystals of blue Vitriol. It consists of a broad and flat Plane for its top, and another similar one for its bottom, tho' these seldom are exactly of a Size, or placed directly opposite to each other, and is terminated at each End, and at each Side, by two smaller Planes meeting in Angles, which form the extreme Verge of the Figure.

Each of these natural Lozenges is composed in the manner of the Masses of Talk, of a great number of thin and fine Plates or Flakes, the largest of which is in the Centre of the Mass, and the others that lie over and under it are gradually somewhat smaller, tho' each is continued over the whole Surface, one single Plate making the compleat Plane or Flat. These several Plates are so evenly arranged and decrease in Size so gradually, that the Figure is always regularly circumscribed, and the Ends and Sides of the Stone are almost as smooth and even as the flat Surfaces at top and bottom, tho' not so glossy.

The whole Mass is composed of a vast Number of these Plates, and splits pretty readily and easily into them in the manner of the Talks; they are also as clear and pellucid as the purest *Muscovy Talk*, but when strictly examined they may be found to be composed of a Number of fine *Striæ* or Filaments uniting into these uniform Surfaces, which is not at all the Structure of the true and genuine Talks.

This Species of Selenite is of very various Size, some regular Crystals of it are found of less than a tenth of an Inch in Diameter, and others of five, six, or more Inches; its usual Standard however is about three Quarters of an Inch in Length, and a Quarter of an Inch in Thickness. It is perfectly pellucid and colourless, it is soft and may be easily scratched by a Pin, and it is considerably heavy. The Plates when separated will bend a little, but they are not at all elastic; if the Force that bends them be carried too far they will break, and that always regularly at the joining of the *Striæ*, which always run parallel to one another, and crosswise not lengthwise of the Plates. It does not at all ferment with any of the acid *Menstruums*, nor is there any known Solvent for it; in a common Fire it very readily calcines into a Matter the same with the Plaister of *Paris* made from the *Gypsum*.

It is found in Strata of Clay usually of the blue tough Kind, such as that which Tiles are made of. We have it in many Parts of *England*, particularly about *Shotover Hills* in *Oxfordshire*, in many Parts of *Northamptonshire* and *Leicestershire*, and about *Epsom* in *Surry*. The finding it in considerable Quantities in this last Place, and in some others where there were purging Waters, gave rise at one time to an absurd Opinion that it was of a purging Nature, and that these Waters owed their Virtues in that Kind to it; but Experiments shew that its Virtues are of a directly opposite Sort. It is indeed a very powerful Astringent, and is of great Effect in Diarrhœas, Dysenteries, and Hæmorrhages of all Kinds. It is not much known in the Shops, tho' it stands in most of the Catalogues of the *Materia Medica*; but the common People in Places where it is frequent, particularly in *Northamptonshire*, call it *Staunch*, and use it in Hæmorrhages of all Kinds with Success. It stands recommended also as a Cosmetic, but this seems owing to the common Error of supposing it of the Nature of Talk, because of its Pellucidity and foliaceous Texture: But tho' these two Bodies agree in these Things, they differ sufficiently in other more essential ones. Talk being elastic, and unalterable by Fire, except in the Loss of its Transparency; the Selenites not elastic, and very readily calcinable.

It may be necessary to observe, that there has been some Confusion among the less accurate Writers in regard to these three foliated Substances, the two Talks and the Selenites. The Name *Stella Terræ*, Star of the Earth, has been attributed to them all, tho' it seems originally to have belong'd to *Venetian Talk* only. The word Selenites, peculiarly belonging to this last described Fossil, and the other Species of the same Genus, has been given also by many of the *German* Writers to the plated Spars, Substances perfectly different from all three of these, and finally the Name *Glacies Mariæ* has been indiscriminately used for all three, tho' the Authors who first used it appropriated it solely to the *Muscovy Talk*.

S T O N E S

Used in M E D I C I N E

Of the Fibrose Kind.

Of the Bodies of this Kind there are only two heard of in the Shops.

I. FIBROSE TALK.

2. ASBESTUS.

C H A P T E R I.

TALCUM FIBROSUM,

Fibrose Talk.

AFTER the Characters given of the Bodies properly called Talk under the Heads of the *Venetian* and *Muscovite* Kind, which are that they are foliated, elastic, and not calcinable in the Fire; it will appear obvious to every one that the Substance to be described in this Chapter, which has not any one of these Characters, can have no right to the Name. In Compliance with Custom however, we are obliged, in a Work of this Kind, to give it not under its scientific Name *Tricheria*, but under that by which it is commonly, though ever so improperly known.

We are farther to observe, that there are several very different Kinds of this fibrose Body, but the Species understood by the Generality of Authors, as that proper to be used and kept in the Shops, is the opake white, with short Filaments, known by the Name of *Gypsum Striatum*, or the striated plaister Stone among Authors. This is a Name not quite so improper as the common one of fibrose Talk, because the Substance is much the same with that of the *Gypsum*, though the Form is different, but yet it is as carefully to be avoided, as it leads to the confounding two distinct Genera of Fossils.

The fibrose Talk of the Shops is a dense and compact Matter of a very irregular Surface, but of a regular internal Structure. It is found in large Masses, some of them of a Foot or more in Diameter, but usually flat and thin, their common Thickness in this proper Species being seldom more than two or three Inches. These are often ridged and undulated on the Surface, and are of an opake and dull greyish white Colour. They are not very hard, and when broken are found to be of a white Colour, tolerably pure, but without any Gloss upon it, and composed of a Multitude of thick and coarse parallel *Striae* or Fibres, each of such a Length as to run through the whole Thickness of the Mass without breaking or Interruption. It is easily fissile in the Direction of the Fibres, but they are not easily separated without breaking, unless in pretty large

large Congeries ; the thinner Pieces that are split off from these are very little flexible and not at all elastic. The inner Part of the Masses is seldom tinged with any adventitious Colour, but the Surface often has a slight Cast of reddish, sometimes of blueish or greenish. It is not soluble in any known Menstruum. The strongest Acids have no Effect upon it. In the Fire however it freely and readily calcines into a Matter of a very pure and bright white, and evidently the same with that procured by the same Means from the *Gypsum*, called Plaister of *Paris*.

This is the Species of *Tricheria*, peculiarly known by the Name of fibrose Talk in the Shops, according to the Accounts of the first Writers on the Subject ; but we sometimes meet with the brighter and more pellucid Bodies of the same Genus under this Name. The Mistake is not of any great Consequence, since they are all the same as to their Matter though the Form varies ; all that is to be observed on the Occasion is, that the true officinal Kind is fitter for the common Purposes than any other Species, because it calcines more readily than any other.

It is very frequent in many Parts of *England* ; the Marl Pits of *Leicestershire* abound with it ; it is also found in sinking after the Brine Springs in the *Worcestershire* Salt Works, and is found in Strata of Stone and Gravel in *Yorkshire*, and many of the *Northern* Counties. Its Name *Gypsum Striatum* expresses its common Use, which is the being burnt in the Manner of the genuine and proper *Gypsum* into a Plaister, but it is also recommended by some as an Astringent given in small Doses, and without previous Calcination. Its most frequent Use however is for the cleaning Silver Lace, for which Purpose it should be very slightly calcined, and reduced to a tolerably fine Powder. It has been by some recommended as a Cosmetic, but probably this has been from an Opinion of its being of the same Nature with the foliaceous Talks.

CHAPTER II.

AMIANTHUS,

The Asbestos of the Shops.

THE Fossil commonly called *Asbestos* in the Shops, is properly of that Kind to which the Name *Amiantus* has been given by Authors, and which are distinguished from the genuine *Asbesti*, by their being composed of long and continuous Filaments, these of short and abrupt ones.

If the Authors who gave the Name of Talk to the fibrose Body above described had given it to this Fossil, they would have had much more Excuse ; for this seems to have, if not the Form, yet much of the Nature, Characters, and Qualities of Talk, in that it is not calcinable by Fire, and has some Flexibility and Elasticity : There is indeed Room to suspect that as in the *Gypsum* and fibrose Talk, as it is called, the Matter seems to be the same, only arranged in the one into Filaments, and in the other disposed in *Granulæ* ; so in Regard to this Fossil and the foliaceous Talks, the constituent Matter may possibly be much the same, though in the one disposed in Flakes, and in the other in Filaments : The peculiar Species of *Amiantus* indeed mentioned in Catalogues of the *Materia Medica* is of all others the least likely to start this Opinion

to any Body, as it is harsh and rigid, which is a very contrary Quality to that of Talk in its fine Smoothness and Unctuousity to the Touch; but we are to observe that this is evidently of the same Genus with the rest of the incom-bustible striated Bodies, and that they have many of them as much Softness to the Touch even as the *Venetian* Talk itself.

The peculiar Species of *Amianthus* kept in the Shops, is the greyish green rigid kind with short and abrupt Filaments. It is sufficiently characterized to us by Authors by their telling us that it resembles the plumose Alum, not any one of the rest having any Title to that Character. It is a very bright and beautiful Fossil. It is usually met with in small Masses of an oblong or orbicular Form, though sometimes in broad and flat cakes in the manner of the fibrose Talks, and sometimes in large and perfectly rude and irregular Lumps. It is of a loose, friable and shattery Structure, easily rubbing to Pieces between the Fingers, and leaving many of its Filaments sticking to them. Its Colour is a very beautiful pale and somewhat silvery green, and when fresh broken it is extremely bright and glossy. It is composed of a great number of *Fasciæ* or Bundles of Fibres, which are arranged in various Directions in the several Parts of the Mass, and are short and very fine. The separated *Fibrillæ* are still divisible into others to a great degree of Fineness, and these always appear ragged at their Sides, from the abrupt Ends of the other yet finer and shorter Filaments they are composed of.

These Fibres are in themselves strait and even, so that all the Undulations and Irregularities we see in the Mass, are owing to the different Angles the several *Fasciæ* of them make with one another. They are a little flexible and somewhat elastic; but there requires a Nicety in the Trial to discover these Properties in them; for they are composed of other *Fibrillæ*, so loosely connected to one another, that they easily break in a transverse Direction. They are very rough and harsh to the Touch, and are apt to part with some of their *Spicule* in the rubbing, which make their Way into the Skin, and are as troublesome there as Cowitch in the Sensations they bring on. This is very ponderous in the Mass, it is indissoluble in all the known Menstruums, in the strongest Fire it loses nothing of its Weight, nor suffers any Change, except that it becomes less green and more hard and rigid.

It is found in considerable Plenty in *Persia*, and in many Parts of the *East Indies*; the Islands of the *Archipelago* also abound with it, and it is met with in *Egypt*, *Africa*, and some Parts of *Europe*. The *Germans* have it in some of their Mines, and when they meet with it, sell it to the Druggists under the Name of *Alumen Plumosum*.

It is something odd, that an Error so gross as that of confounding this Substance, which has neither the Taste nor any one of the Characters of Alum, with the Efflorescences of that Salt should take Place; but so it is, that we meet with nothing else under the Name of *Alumen Plumosum*, and almost all the Authors who have written on these Subjects have confounded them with one another. As this Substance however is not soluble in Water, there is a very ready Test to prove that it is not the Thing it is offered to Sale for. If any farther Characters are necessary for the Distinction, we may add, that the true plumose Alum melts immediately in the Mouth with a very strong Astringency in the Taste. The *Amianthus* is hard and indissoluble, and even wounds the Tongue, and is wholly

wholly insipid to the Taste; and if brought to the Trial by Fire, the *Amianthus* remains unaltered in the strongest Heat, the plumose Alum melts in a very mild one.

The Virtues ascribed to this Fossil are those of a powerful Astringent and Styptic, but these agree so well with the plumose Alum, the Substance with which it is usually confounded by Authors, that there is great Reason to suspect that whoever has ascribed them to the *Amianthus*, has transcribed them from some former Writer who meant to attribute them to the Alum. It seems indeed one of the last Fossils that a Man in his Senses would put down his Fellow Creature's Throat, its unconquerable *Spiculæ* seeming destined to do very terrible Mischief to the Stomach and Intestines.

The *Alumen Plumosum* is doubtless the purest and finest Alum in the World, and no other Form of that Salt is so proper for medicinal Use; but it is very happy that our Physicians have forgot to prescribe it, since nothing is more certain than that this mischievous Fossil would be given the Patient in its Place.

S T O N E S

Used in M E D I C I N E

Of the granulated Kind.

Of the Bodies of this Kind there is only one kept in the Shops, which is the

G Y P S U M.

C H A P T E R I.

G Y P S U M,
Plaster Stone.

TH E R E are several distinct Species of *Gypsum* found in the several Parts of the World, and differing in Hardness and in the Fineness or Coarseness of their Structure, but the Descriptions Authors have left us of the Species they recommend as of the Number of medicinal Simples, shew very plainly, that they understand by that Word the white, glittering, hard Kind, which resembles fine Sugar, and which is usually known under the Name of Plaster of *Paris Stone*.

It is a very pure and beautiful Fossil, much approaching to the Nature of the fibrose Talks, but that its Particles are not arranged into *Striæ* or Filaments, but formed only into small Granules. It is found in loose Masses of very irregular Shape and Size; they are indeed more frequently broad and flat than of any other Figure, and are in general from six Inches to two or three Feet in Diameter, with four, six, or eight Inches Thickness. The Surface of these Masses is perfectly rude and irregular, but when broken the Substance they consist of is found very much to resemble Marble in its Appearance. It is

is very bright and glossy, and of a close, firm, and compact Texture, though visibly of a large and coarse Grain: Its natural Colour is a pure and very bright white, but it is sometimes accidentally ting'd with brown, or with reddish. When nicely examined, the Granules or Particles which compose the Mass are found to be flatted, and in some Places resemble small Spangles of the white Talks. It is very heavy, but not hard, a small Piece of it may even be crumbled between the Fingers into a coarse white Powder: It breaks equally easy in all Directions, and when held up against the Light, in not too thick Pieces, is tolerably pellucid. It is indissoluble in all the known Menstruums, and if put into the Fire it very freely and readily calcines into a good Plaister of Paris.

It is dug in many Parts of *France*, but particularly near *Mont Martre*, where there have long been Pits of it that have furnished vast Quantities.

Its great Use is in the burning to Plaister, but we find it recorded in the Works of some medical Writers as an Astringent and Styptic, given in its crude State; when calcin'd the Ancients esteem'd it a Poison, but this was without Reason. It is now not unfrequently sold in Powder, after Calcination, by our Druggists, under the Name of *English Talk* burnt and powdered, for the cleaning Silver Lace.

S T O N E S

Used in M E D I I N E,

Of the harder and opake Kind.

Of these there are Six.

- | | | |
|----------------------|----------------|--------------------------------|
| 1. LAPIS CALCARIUS. | 3. OSTEOCOLLA. | 5. LAPIS BEZOARDICUS FOSSILIS. |
| 2. LAPIS HIBERNICUS. | 4. CERATITES. | 6. LUDUS HELMONTII. |

C H A P T E R I.

LAPIS CALCARIUS,
Lime-Stone.

THERE are so many Species of Stone capable of being burnt into Lime, and so many that in the different Parts of the World are really put to that Use, that it would be difficult to affix any particular Idea to the Term Lime-Stone: We are to understand by it in general any Stone, that upon a proper Degree of Heat continued a sufficient Time, becomes a white Calx, which will make a great Ebullition and Noise on being thrown into Water, and will in fine fall into a loose white Powder at the bottom of that Liquor, after having very strongly impregnated it with its soluble Particles.

As

As we never use the Lime-Stone uncalcin'd, it is the less necessary to affix any particular Species, as the true or proper *Lapis Calcarius* of the Shops: The most common Kind is a greyish or blueish Stone, found in loose Masses, of considerable Size, and often vein'd with red: Marble, Alabaster, and all the Stones that have Spar for their Basis, may also come under the general Denomination of Lime-Stone, since they all burn into Lime. In general every Stone, of whatever Kind or Colour that will ferment with Aqua Fortis, will also burn into Lime, and it is of no Consequence to the medicinal Use of that Calx, whether it be made of one or of the other of these Stones. What we have in *London* is usually made of Chalk; it is weaker than that made of Stone, otherwise the same. Lime is to be chosen for medicinal Use in clean, light and hard Pieces, but not stony, such as will not easily crumble to pieces between the Fingers, and yet will readily break when thrown into Water. The best Lime in the World, on being long exposed to a damp Air, will moulder away into a Powder and lose all its Virtue, but this the more slowly, as it was originally the better made. The Lime when in its perfect and unaltered State, as newly taken from the Kiln, is call'd *Calx viva* or Quicklime: That which has lain in the Air till it has fallen to Powder of its own accord, is call'd *Calx extincta*; and that which has been thrown into Water, and the Powder it has fallen into afterwards wash'd with several fresh Waters, is call'd *Calx lota*.

Quicklime is burning and corrosive and is never given internally, but it is sometimes used in external Applications, as made into a Paste with Orpiment, or with Rufma, and used as a Depilatory. The *Calx lota* is no longer a Corrosive but a powerful Desiccative; and Lime-Water is of great Service internally in all cutaneous Eruptions, in the Cure of obstinate Ulcers, and for Diseases of the Lungs. It is generally to be continued a considerable Time for this Purpose.

The Preparations of Lime in Use in the Shops are, 1. The simple Lime-Water just mentioned. 2. The *Aqua Calcis minus composita*, the less compound Lime-Water. 3. The *Aqua Calcis magis composita*, or more compound Lime-Water. 4. The *Causticum commune fortius*, the common stronger Caustic. 5. The *Causticum commune mitius*, the common milder Caustic; and, 6. The *Aqua Phagedænica*, or Phagedænic Water.

AQUA CALCIS SIMPLEX,
Simple Lime-Water.

Put into a large earthen Pan a Pound of Quick-Lime, pour upon it by a little at a Time a Gallon and a half of Water, after the Ebullition is thoroughly over, let the Liquor stand to settle, and then pour it clear off and filter it for Use.

This is principally intended for washing old Ulcers and other external Purposes; when it is to be taken internally the following Additions are made to it to take off its ill Flavour, or to add to its Virtues.

AQUA CALCIS MINUS COMPOSITA,
The less compound Lime-Water.

Take of Liquorice Root an Ounce; of Sassafras Bark half an Ounce; simple Lime-Water three Quarts; let the whole infuse together for two Days without Heat, then filter it for Use.

AQUA CALCIS MAGIS COMPOSITA,
The more compound Lime Water.

Take Raspings of *Guaiacum* half a Pound, Liquorice Root an Ounce, Saffras Bark half an Ounce, of Coriander Seed three Drams, of Lime Water three Quarts, let the whole stand together two Days without Heat, and then filter it off for Use.

CAUSTICUM COMMUNE FORTIUS,
The common stronger Caustic.

Take equal Quantities of Quicklime and *Russia* Potash, throw on Water by Degrees till the Lime is slaked, then throw on more Water and stir the whole together, that the Salt may be thoroughly dissolved; filter it through Paper and boil it, till from its true Standard of sixteen Ounces in Weight filling an exact Pint, it be reduced to a fourth Part of that Quantity; then while it is yet boiling sprinkle into it Lime that has been kept in a Vessel pretty close stopped for several Months, continue to add more and more of this Lime, till all the Liquor is absorbed and the whole reduced to a Paste; this Paste is the Caustic, it must be kept in a Vessel well stopped.

CAUSTICUM COMMUNE MITIUS,
The common milder Caustic.

Take of soft Soap and of Quicklime of each equal Quantities, mix them for Use; our Surgeons are fond of this last, where a milder Operation is necessary: the other is now used in the Place of the *Lapis Infernalis*, and answers all its Purposes.

AQUA PHAGEDÆNICA,
Phagedænic Water.

Take Corrosive Sublimate a Dram, Lime Water a Quart, mix them together, and after thoroughly shaking, let the Liquor settle for Use.

This is used by the Surgeons as a gentle Escharotic for the cleansing of Ulcers, and the eating away proud Flesh.

C H A P T E R II.

LAPIS HYBERNICUS,
Irish Slate.

THIS is a Fossil of the Slate Kind impregnated with Alum, and that in so strong a Manner as very well to deserve the Name of an Alum Ore, and often containing also a Portion of Vitriol. It is a coarse and rough Slate of a softer and more friable Texture than most of the other Stones of that Class, of a dusky blackish Colour and remarkably heavy. It is composed, like the other Slates, of a Multitude of thin Plates or Flakes, laid evenly and regularly over one another, but in this they are less firmly united than in the others, whence it is the most easily fissile of all the Kind; and were it not more brittle than the rest and apt to shatter to Pieces in the Weather, it would be the most convenient in the World for covering Buildings: applied to the Tongue it is found to be of a manifestly astringent Taste, and when examined strictly, especially after it has been some time exposed to the Air, there will often be found short downy Efflorescences of a true *Alumen Plumosum* on several

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veral Parts of it. It will not be dissolved by any Acid, but thrown into Water it parts with its Salt, which may be afterwards separated by CrySTALLIZATION into pure Alum. If calcined in a common Fire it becomes of a pale red. It is found in great Abundance in many Parts of *Ireland*, as also in several of our own Counties; it generally lies near the Surface and constitutes thick Strata.

It is given in Powder as a Styptic in all Kinds of Hæmorrhages with Success. It is no wonder indeed, that an Ore of Alum with the Advantage of some Vitriol, as is frequently the Case, among it, should have these Virtues, but perhaps it would be full as prudent for the Person who knows to what Salt or Salts it is that this Fossil owes its Power in Medicine, to give those Salts alone in a Dose that he can depend upon, and without the Load of useless earthy Matter, that they are mixed with in this Substance.

CHAPTER III.

OSTEOCOLLA, *The Bonebinder.*

THIS fossil Body, supposed by many to be an Earth, and by many to be a Stone, is truly a Species of Spar of one of the crustated Kinds mentioned in the Enumeration of the Species under that Head. It is of the Number of those which are much debased by Earth, and have therefore nothing of Brightness or Transparency, and are usually found coating over vegetable or other extraneous Bodies in form of Incrustations. It is to be observed, that the Descriptions of Authors differ considerably on this Subject, but this is owing to every one's having described the Specimens he saw of it, and which may well have been different enough from one another, as the Inaccuracy of the Druggists and Apothecaries has received into their Shops various of the common crustated Spars under this Name. Hence arises the Distinction of *Osteocolla* into three or four Kinds, which we meet with among some Authors; but supposing the Term *Osteocolla* to express, as it does in the Writings of the first Authors who have treated of it, only one Substance, these Distinctions serve only to lead People into Errors, and make them accept spurious Substances under its Name; if on the other Hand these Authors meant to comprehend every crustated Spar in the World under its Name, they should have much enlarged the Number of the Kinds of it.

The true and genuine *Osteocolla* is a tubular crustaceous Spar, of a very foul and coarse Texture, and carries with it much more of the Appearance of a Marl, than of a Body of that Class to which it truly belongs. It is ever of the same determinate and regular Form, being always found in long and thick Pieces of an irregularly cylindrical Figure: these are commonly hollow, or composed of a tolerably thick Crust with a Vacancy within; sometimes however this Space is filled up with a Quantity of a soft marly whitish Earth, and sometimes with a Substance that serves to shew the true Origin of the Body, a Stick or some other the like extraneous Body remaining yet within the *Osteocolla* round which it had originally formed itself.

We are not to conclude however, that because these particular Specimens of the *Osteocolla* were form'd by Incrustation round foreign Bodies, all were so;
some

some of the Pieces we meet with are evidently no more than irregular Tubes form'd by the rolling up a flat Plate of the Matter they are compos'd of, while it was yet soft; some of them are depressed and beat in, so that the Sides almost touch one another in some Places, and others of them have a Fissure down the middle, or have no regular joining of the Circumferences of the several Plates or Crufts the whole is compos'd of, but they fall over one another at their Extremities, and plainly shew that they have not been formed of Additions of new Matter, dispos'd regularly in Crufts or Coats round the old, but that the whole Number of Plates were once laid flat together, and afterwards rolled up all at once into the Form in which we see them. Most of these Sort of Substances have been form'd in Water, and this Sort of rolling up of a flat Body is no wonderful Effect of Water in Motion.

The Masses of *Osteocolla*, tho' regularly of the same Figure, are very different in Size, some of them being not thicker than a Crow Quill, and others of five or six Inches in Diameter; the more frequent Size however is that of about two or three Inches long, and a third or a little more of an Inch in Diameter. It is sometimes compos'd only of one single Cruft or Bed of Matter, but more frequently of two or more: These are usually all of the same brownish Colour, but are coated over with a thin covering of a whitish dusty Matter, which not only gives a Whiteness to the Surface of the whole Body, but by its covering the inner Crufts as well as the external one, marks the Division between them by a thin white Line. It is always of a wrinkled and rough Surface, often cut in deeply with Furrows, and sometimes rising into little Protuberances; it is considerably hard and heavy, and is compos'd of Spar debas'd by an Admixture of a brown argillaceous Earth, which may be separated by Aqua Fortis; for if the *Osteocolla* be thrown into that *Menstruum*, the Spar it contains is wholly dissolv'd and taken up by it, the Earth remaining behind, but that in a much smaller Quantity than it would have been natural to have imagined must be contained in a sparry Substance of so dark and foul an Appearance. The small Quantity of Earth it contains is also so perfectly mixed and blended with the Spar, that it forms one regular and smooth Substance with it, much in the Manner in which the Earth and Crystal joined together form a common Flint, in which also it may be observed, that however coarse and foul it appears in Comparison of pure Crystal, there is yet less Earth than in the *Osteocolla*.

Osteocolla is frequent in many Parts of the German Dominions, where it lies near the Surface of the Earth, sometimes in Strata of Sand, but more frequently in Marls; there is also much of it found in the Brooks about *Rotelberode*, &c. That *Osteocolla* which is found in the Earth is usually of the regularly crustaceous Kind, and has frequently the remains of the Sticks, &c. about which it has been formed, yet in its Cavities: but that which is found in the Brooks is usually of the rolled up Kind, and never has had any thing to incrust upon; tho' even in these, where there happen to lie Sticks in the way, it will sometimes gather round them and be of the other Kind.

Osteocolla is to be chosen for Use the purest that can be had of a pale brown Colour, and of a tolerably close and firm Texture. We sometimes meet with it debas'd by an Admixture of a yellowish or blueish Clay, but in both these Cases it is to be reject'd. It has been long esteem'd famous for bringing on

a Callus in fractured Bones, and the *Germans* at this time usually give it, where the Callus does not seem to form itself so quick as they could wish. It is also recommended as a Diuretic, and as good in the *Fluor Albus*, but the present Practice with us takes no Notice of it; probably whatever Virtues it has are owing wholly to the Spar it contains, and in this Case it would be better to give Spar in some purer Form not loaded with the earthy Matter, which makes it *Osteocolla*.

CHAPTER IV.

LAPIS CERATITES SIVE UNICORNU FOSSILE,
The Ceratites or Fossile Unicorns Horn.

THE Substance called by Medical Writers *Ceratites*, and less properly *Unicornu Fossile*, is properly no other than a terrene or debased Spar, approaching to the Nature of the *Osteocolla*, but smoother and less hard; and all that has given it a Title to the Name *Unicornu Fossile* is, that as Bones and Horns of various Animals are found bury'd in the Earth about the Places where this peculiar Spar is form'd, it often enters their Pores, and also those of Wood, or of any other extraneous Substance accidentally lodged in the same Places, and after petrifying them in a Manner by filling all their Pores, it retains their Form and is called by their Name. The Term Unicorns Horn, however carrying an Idea of Rarity and Value with it, they have ascribed this to the Substance in the Pores of whatever Substance it is lodged; and as they know very well that it is the same thing, whether lodged in Wood or in Bone, they give the Name of *Unicornu Fossile* to evident Branches of Trees which are impregnated with it, and which are indeed the general Specimens of it we meet with in the Shops. The Narwalls Horn usually sold by our Druggists under the Name of Unicorns Horns, is of the Number of the animal Remains found in that Part of the World, and is therefore, like other extraneous Bodies of the same Kind, liable to be impregnated with this pervading Spar; when it is so they use it among the rest of the Substances filled with it under the same general Name; but when it is found preserved in its own Form, and its bony Matter not destroyed, or when petrified by crystalline, flinty, or stony Matter, as is sometimes the Case, they do not receive it into their Shops under the Name of *Unicornu Fossile*, but give that Title to Fragments of Bodies of any Kind, that are impregnated with the true genuine sparry Matter. It is sufficiently evident from this, that they do not receive the Bones, but the Spar that saturates them as the Substance useful in Medicine. This is also more evident from their giving the same Name to the Concretions, which are frequently met with of this Spar alone, in which it has not been influenced in its Figure by any extraneous Body; these Concretions are usually Tubular and Conic or Cylindric, and these are as universally called Unicorns Horns as the rest.

The Substance truly understood under the Name of *Ceratites*, or *Unicornu Fossile*, is then a Spar debased by a large Admixture of a whitish marly Earth, but that in different Degrees, not only in the different Specimens, but in the different Parts of the same Specimen. When it has concreted in its natural Form it is found in the Figure of a conic tubulated Body, not solid, but whose inner

Cavity, which is considerably large, is sometimes empty in the Manner of the *Osteocolla*, and sometimes filled up with a marly Earth, with very little Spar among it, looking like the Matter of the Crust, but more lax and friable. It is very various in Size, being found in Masses from the Bigness of a Finger, to those of two or three Feet in Length, and is usually tender, soft and friable. This is the natural Appearance of the *Ceratites*, and in this State nothing is more evident than that it is a Body of the same Kind with the *Osteocolla*. It is always made up even in the smallest Specimens of several Crusts, usually much more numerous than those of the *Osteocolla*, ten, twelve or more being frequent in a moderately large Specimen. It is very common to meet with one End of a Specimen of this Body very hard, and the other very friable, but in this Case all the Crusts, which compose the same Part of the Specimen, are of the same Degree of Purity and Hardness. Tho' it approaches in many things to the Nature of the *Osteocolla* it differs extremely from it, and indeed from all the rest of the tubular Spars, in that its Surface is not rough and protuberant as theirs, but perfectly smooth and even, as if polished down by Art. It is of a fine whitish Colour, and is in general so soft, that it may be easily broken between the Fingers. It adheres very firmly to the Tongue, and if thrown into Water raises an Ebullition and hissing Noise, which continues a considerable time. It is liable to be debased by an Admixture of a yellowish or blueish Clay, but in either of these Cases it is to be rejected, and only the light white and friable Kind to be received as fit for medicinal Purposes.

Tho' this be the genuine and natural Appearance of this Fossile, it is however far from being its most frequent one. It indeed rarely concretes separate and of itself, but lodges in the Pores of the several Bodies we have before mentioned, and these are in general to be received as more and more fit for Medicine, in Proportion to their retaining less and less of their original Nature, it being this altering Matter alone that is the Medicine. It is met with in Form of Bones of various Kinds, and those formerly belonging to various Animals. The Ribs, Teeth, Thigh Bones, and *Vertebræ* of Elephants, and other large Animals, are frequently found impregnated with it, and the natural Concretions of it not having been supposed such, but like the rest, Remains of Bones, there was nothing in the whole Animal World that they could suppose the long conic Masses of it to owe their Form to, but the Horns as they are called of Unicorns, that is the *Dentes Exerti* of the *Narwall*, each of which Fishes carries one such in the left Part of its upper Jaw.

The *German* Dominions furnish large Quantities of this Fossile, but it is nowhere found in such Plenty as in the Cavern of *Scharzfeld* in the *Harts Forest*; from this Place alone the Shops of *Germany* are supplied with it.

It is esteemed a powerful Sudorific, Alexipharmic, and Astringent. They give it in malignant Fevers, and in Diarrhœas, Dysenteries, the *Fluor Albus*, and Hæmorrhages of all Kinds. It is also with many a celebrated Medicine in Epileptic Cases.

The Dose is from a Scruple to a Dram. Some prefer the medullary Part of the natural Concretions, and others the cortical; but this Distinction is of the less Consequence, because the impregnated Sticks and Bones are what are principally used, and these are throughout alike. There are Stories of Mis-
chief

chief being done by some of the Masses of this Fossil, from their having been impregnated with arsenical or other poisonous *Effluvia* while in the Earth, and the Apothecaries are generally careful enough to try a Part of a large Mass on Dogs before they venture to give it to their Patients.

CHAPTER V.

LAPIS BEZOARDICUS FOSSILIS.

Fossile Bezoar.

THIS is a Fossil famous for its Virtues in many Parts of the World, and described, though very vaguely and inaccurately, by Authors, under the Name of *Terra Sicula*, *Bezoardicum Minerale*, and *Lapis Bezoar Fossilis*.

All that seems to have been understood by the Generality of Writers on these Subjects, in Regard to the Bezoar Mineral, has been, that it was a Stone composed of several Coats or Crusts in the Manner of the famous Animal Bezoar, found in the Stomach of the Creature from which it is taken; and they have accordingly described any one of the soft crusted Stones they have met with under this Name; so that with some the Bezoar Mineral is described as brown, by others as yellow, and by others as grey; and some tell the World it is solid, some that it is hollow. There are a vast Number of these crusted Bodies known to the Writers of Fossils, every one of which may be made to be a Bezoar Mineral by this Means; but they are in general composed of mere ochreous Earths, and therefore though they have the Form of Bezoars, can have nothing of the Virtues ascribed to this Stone. The Species that is described by the Authors who have treated most at large of its Virtues, is the small rough purple Geodes, which contains in it an Earth of a peculiar Fineness. This is therefore to be understood to be the true Bezoar Mineral of the Shops.

It is a Body usually of a roundish or oblong Form, tolerably firm but very light, and when broken appearing to consist only of a single Crust, forming a large hollow with a great Quantity of Earth in it, never nearly sufficient to fill it. It is usually about the Size of a Pigeon's Egg, rarely much smaller, and very rarely much larger, though some Specimens of it have been found of the Bigness of a Turkey Egg. It is of a deep ferrugineous Purple on the Outside, and is very rough and scabrous; this however is owing to Accident, its own Surface being tolerably smooth and even wherever it is pure, but in general it is covered with numerous Particles of a white Sand, which having fallen on it while yet soft, are bedded in part within its Substance, and are fixed very firmly there. When broken it is found to be composed merely of this single Crust, which is of a coarse and spongy, but yet tolerably firm Texture, and is seldom half a Quarter of an Inch in Thickness, sometimes not half so much as that. Within this Shell is enclosed a *Nucleus* of a very fine pale whitish green Earth of the Marl Kind, extremely soft to the Touch, friable and melting easily in the Mouth. Sometimes this is contained in the Shell in one large Lump, sometimes in several small ones, in either of which Cases it will rattle in the Crust when shaken; sometimes it is in absolute Powder, in which Case it scarce makes any Noise in it. It is this Earth that is the medicinal Substance, and very great Virtues are ascribed to it. It is said to be a very powerful Sudorific, and a slight Astringent. It is given in malignant Fevers

Fevers, in the Small-Pox and Measles, and against the Bites of venomous Animals. The usual Dose is from five Grains to a Scruple, but some give it as far as a Dram.

It is found in many Parts of *Italy* and *Sicily*, and has sometimes, though rarely, been met with in *Germany*. It usually lies among small Flints and Pebbles.

CHAPTER VI.

LUDUS HELMONTII,

The waxen Vein, or Ludus of Van Helmont.

THE *Ludus Helmontii* is a very singular Fossil, easily distinguished at Sight from all the other Fossils in the World; but as there are several Species of it, there requires some Accuracy in distinguishing those proper for medicinal Purposes.

The *Ludus Helmontii* in general is an opaque Fossil of an irregular Shape, but of a very regular and very singular internal Structure. It is found in large Masses, and is of an earthy Hue, rather resembling Clay than a Stone in Appearance; and is always divided into separate Masses, by a Number of Veins of a different Colour and purer Matter than the rest; these Masses, which it is divided into, are sometimes small and tolerably regularly figured, in which Case they are called *Tali* or *Ludi*, *Dice*, from whence came the Name *Ludus*, and the Partitions or *Sepata* which divide them, being of a yellow Colour much like that of common Bees Wax, from thence came the Name of the waxen Vein. These Veins or *Sepata* however are not always of a waxen Colour, nor are the divided Parts always figured like Dice, much more frequently they are of no regular Shape at all, and a Mass of the Bigness of a Man's Head is only divided into four or five of them.

The common *Ludus's* are of an irregular Structure, except in regard to their Division by *Tali*; but there are a Set of them which are regularly crustated or composed of many Coats, disposed one over another about a central *Nucleus*, in these the *Septa* or Divisions are very thin and fine, in the others they are much thicker. These crustated *Septariæ* or *Ludus's* are very easily distinguished from the officinal Kind; but among the others which are divided in the common Way by thicker *Septa* or Veins, some have those Veins of pure Spar, others of Earth, or of Part Spar and Part Earth, others of the Matter of the common Pyrites, and finally others of Crystal.

It is to be observed that the *Septa* of this Body are the only Part of it that should be used in Medicine, and that these act only as they are composed of Spar. It is evident therefore that such Masses of the *Ludus* as have earthy pyritical or crystalline *Septa* are wholly to be rejected. There are a vast Variety of those whose *Septa* are of pure Spar alone, and of these it seems a Matter of Indifference which to use. *Van Helmont* himself seems to have looked upon them in this Light, as a grey one and a dusky brown one were both brought into *England* after the Death of *Van Helmont* by his Son, as the Substance used by his Father under the Name of *Ludus*. These were much the same in all Respects, except the external Colour of their *Tali*, but as the grey one has been supposed to be, rather than the other, the true and original *Ludus* of this Author, it is to be looked on as the officinal Kind. The

264 The LUDUS of VAN HELMONT.

The grey *Ludus Helmontii* is but improperly called so, as it is not of this Colour throughout the whole Substance of the *Tali*, but only on their Surface. It is a firm and hard Fossil, of a close, dense, and compact Texture, and in the *Tali* or intermediate Part of a tolerably smooth and even Surface. It is found usually in Masses from a Pound to six, eight, or ten Pounds in Weight. These are of a perfectly irregular Figure, seldom much tending to Roundness, and not often flatted. It is very excusable in Authors to have described its Colour as grey, for it does appear so not only on its Surface, but wherever it separates on giving it a Blow. It is the Nature of this Fossil to be full of Cracks, such of these as are large and wide give Place to the *Septa*; but beside these it has a Multitude of other fine and imperceptible ones, at which it breaks on a Blow: though the Eye does not distinguish these. The fine grey Earth that has coated over the Surface of the whole Mass makes its Way into them, and is found to have completely covered both the Surfaces of the Crack, the Fragments divided at that Place therefore appear as grey as the Rest of the Surface; but if any one of these be forcibly broken, it is found then to be of a pale brown Colour, and only to have been coated over with a thin Film of this grey Earth. The large Cracks of this Fossil have been filled up with Spar, and now shew themselves to us in Form of Veins of a fine pale whitish yellow Colour, very pure and bright, and of an obscurely striated Texture. These are the *Septa*, they are thinner near the Surface, but thicker near the Centre of the Masses. The whole Mass is so fine, as to be capable of a slight Polish; the *Septa* take it better than the rest, and the intermediate Matter does not then appear grey but brown. The whole Substance of this Fossil is composed of an earthy Matter, sated with Particles of Spar, and the *Septa* which are pure Spar, seem to have been formed of that Matter separated from among the rest by Water, pervading the whole Substance of it while in the Earth, and left to fill up the Cracks into which the Water had carried it, and then drained slowly away from it.

The whole Mass ferments violently with Aqua Fortis or any other Acid, and is in Part dissolved, but the *Septa* are wholly and intirely soluble.

This grey kind of the *Ludus* is the most common Species of it produced in *Germany*. It is found there in the Strata of Clay which form the Banks of Rivers, and is picked up on their Shores, after having been washed out of its Beds in Floods and Storms, and washed clean by the Water afterwards. We have it also in great Abundance in *England*, all our Clay Pits furnish it in Plenty, but none in the Kingdom in such Abundance and Variety, as those near *Gray's-Inn Lane* with us, where Clay is dug for making Bricks and Tiles. We most frequently meet with it naked there, but it is sometimes covered with a clayey Crust; and often contains little Nodules of the *Pyritæ*, and Fragments of Shells in it.

The History of its getting into Use in Medicine is this. *Paracelsus*, who was fond of mineral Remedies, had taken up an Opinion, how true we shall not pretend to determine, that the cubic Pyrites before described under its proper Head, was an excellent Remedy for the Stone. *Paracelsus* was fond of fantastic Names for his Medicines, and observing these Bodies always in the regular Form of a Die, he called them *Ludi, Dice*. *Van Helmont* did not make out any more by the obscure Description this Author had left of them, than that

that they were of a square Figure, and were found in the clayey Banks of Rivers: He sought for such Bodies, and meeting with some of these sparry Masses divided into regular *Tali* of a square Figure, he supposed them to be the *Ludus* of *Paracelsus*, called them *Ludi*, and gave them in the Stone with that Success, that Spar in a thousand Forms has been given in the same Case for many Ages with. The Mistake was a lucky one; the false Fossil proved a much better Medicine than the true one could have done; and we have ever since given the Name *Ludus* to this Body, with the Addition of that of the Author who brought it into Practice.

The *Septa* or Veins should be separated from the rest of the Mass for medicinal Use, and these are easily reduced to a fine Powder: The Dose is from a Scruple to a Dram for nephritic Complaints; many People have taken them in *Germany* and found great Benefit; and there is no Question of their performing every thing in these Cases that Spar in any other Form, that is all that the *Ostracite* and *Lapis Judaicus* could do.

P U M E X,
The Pumice.

THE Pumice is generally ranked by Authors among the native Stones, but very erroneously; there are indeed Stones which in their native State are of a lax, spungy and cavernous Structure, and which resembling Pumices, have been by Authors of no great Accuracy confounded with them; but what we properly call the Pumice, is evidently a Slag or Cinder of some Fossil originally bearing another Form, and only reduced to this State by the violent Action of Fire.

It is a lax and spungy Matter, frequently of an obscurely striated Texture in many Parts, and always very cavernous and full of Holes; it is hard and harsh to the Touch, and is much lighter than any other Body that comes under the Class of Stones. It is found in Masses of different Sizes, and of a perfectly irregular Shape; they are often roundish, but more usually flatted, and are full of little Pores and Cavities, not only within, but on the Surface. They are found from the Bigness of a Pigeon's Egg to that of a Bushel; but the more usual Standard is between the Size of a Man's Fist, and eight or ten Inches in Diameter. In Colour it is naturally of a pale whitish grey, and in the purer Pieces, when fresh broken, it looks very bright and silvery, especially in those Parts where it appears striated. It is moderately hard, but falls to Pieces with a smart Blow, and is easily reduced to Powder. It is harsh and gritty between the Teeth, and is of a manifestly saline Taste, but that it owes wholly to the Salt it has imbibed from the Sea Water; what we have imported being always such as has been collected about the Sea Shores.

The Pumice will not ferment with any Acids, nor suffer any Change in the Fire, it having already stood a much greater Force of that Element than we are able easily to expose it to. We ought to chuse for medicinal Purposes the palest coloured, cleanest, and lightest Masses, and such as most easily fall to Powder in the Mortar.

The Pumice is found in many Parts of the World, but particularly about

the burning Mountains, *Ætna*, *Vesuvius*, and *Hecla*. Many Parts of *Germany* abound with it, and with a Kind of *Tophus*, a native stone of a spongy Structure, so very like the Pumice, that it is frequently mistaken for it, and sold under its Name. The Difference however is very obvious, for this false Pumice has nothing of that Sharpness between the Fingers which the true Pumice always has. Beside the Places where the Pumice is naturally produced, it is found in many others, to which it has been carried by the Winds and Seas, when it has been thrown up in vast Abundance in the Eruptions of those Mountains, and by its Lightness supported in the Air, while carried into Seas at some Distance by the Winds, and thence to very distant Shores. Wherever there are, or have been Volcanos, there may be Pumices left in large Quantities; many of the Places where Heaps of them are found at great Distances from any burning Mountain may have been heretofore the Places of Eruptions, and even many of those found in the most distant Seas, may have been thrown up by Volcanos bursting from the Bottom of the Sea itself, as in the Formation of the new Island near the *Santorini*, where an immense Quantity of calcined Matter, much of the Nature of Pumice, was raised by such an Event above the Surface of the Sea, and remains an Island to this Time.

That all true genuine Pumices have been reduced to the State in which we find them by the Action of the Fire, seems very evident; indeed when we consider the Force of the Fire in the Places where they are found, it is not easy to conceive how any Fossil that comes in its Way should stand it so little altered from its Nature as the Pumice shews itself to be: but though it is easy to determine that the Pumice is a calcined Stone, it is not quite so easy to say what Stone it, is under that State. The ancient *Greeks*, who were at least as well acquainted with the Nature of the Pumice as we are, supposed it to be the *Lapis Arabicus*, a Kind of striated Stone of a crystalline Basis, found at this Time in the Islands of the *Archipelago* and in the *East Indies*; reduced to this State by subterranean Fire. But we cannot conceive how any Stone of a crystalline Basis could be altered so much, without being altered much more by Fire. It rather seems probable, that deep in the Earth from whence these Volcanos burst forth, there are Masses of a stony Matter approaching to the *Asbestos* Kind, and that these, after having been calcined in these terrible Fires, at length are thrown up in this Form.

The *Greeks* were well acquainted with this Stone, they knew so much of its History, as that it was no where found so abundantly, as in the Openings of the Burning Mountains, and they preferred the Pumices found there, to those met with on the Shores.

The great Use of the Pumice among the Ancients seems to have been as a Dentrifice, and at present it is retained in the Shops principally on the same Account: Though it were to be wished that this, and every thing of the same Kind, were banished from all Compositions of this Intention, as they cut off the Enamel of the Teeth, and render them liable to Decay much the sooner.

S T O N E S

Used in M E D I C I N E

Of the Semi-pellucid Kind.

Of these there are thirteen.

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|------------------------------|----------------|------------------|
| 1. ALABASTER. | 6. MALACHITES. | 10. ONYX. |
| 2. SERPENTINE STONE. | 7. CORNELIAN. | 11. EAGLE STONE. |
| 3. NEPHRITIC STONE. | 8. AGATE. | 12. CRYSTAL. |
| 4. LAPIS DIVINUS. | 9. JASPER. | 13. SPAR. |
| 5. HELIOTROPE OR BLOODSTONE. | | |

CHAPTER I.

ALABASTRITES,
Alabaster.

THIS is a very bright and elegant Substance of the Marble Kind, but of a large Grain and a very loose and shattery Texture. It is found constituting whole Strata, and those of a very great Extent, in which its Surface that is exposed to the Injuries of the Weather, is usually of a dirty brownish or yellowish Colour, and so friable that it may be crumbled to Powder between the Fingers. But when this is removed the Alabaster appears of the most bright and beautiful white imaginable; it is in this Particular greatly superior both to the *Parian* Marble of the Ancients, and to the *Caracca* Marble of our Times; and indeed, were it equally durable, would far excel all the white Marbles. It is composed of a Multitude of large and flat Granules, which are very bright, and resemble Fragments of Talk. In many Places they are thrown together in no regular Order, but make an infinite Variety of Angles with one another, cohering in many Places but by a small Part of their Surfaces, and to this is owing the Want of Firmness in the Stone. It cuts very easily, and will take a very high Polish.

It makes a violent Effervescence with Aqua Fortis, and is in fine totally dissolved and taken up by it: In a very moderate Fire it calcines to a fine Plaister. It is very frequent in *Egypt* and *Arabia*, and there are some Quarries of it in *Italy*. This is the true and proper Alabaster; our Workmen have a Way of calling all the white Marbles by that Name: but this is what the more judicious of them distinguish, when they meet with it as peculiarly deserving that Title.

The Ancients were very well acquainted with it, though not under the Name of Alabaster: They ranked it among their white Marbles, and called it *Marmor Lygdinum* and *Lygdinus Lapis*; and the more ancient *Greek* Writers *Chernites*

or *Chermites*. It would be very much collected for the Use of the Statuaries, but that the Strata of it are liable to such Numbers of perpendicular and horizontal Fissures, that it is a rare thing to meet with a Block of it large enough for any considerable Work. The Ancients have left us the same Account of it, they never attempted Statues in it, but usually work'd it into Vases which could not but have a Lustre greatly superior to those of any other Materials.

The Ancients brought it into Use in Medicine as an Astringent and Styptic. They gently calcin'd and ground it to Powder before they used it: at present it is used in *Egypt*, where it is plentiful enough, as a Diuretic. However odd this Practice may appear, there is at least a Similarity of Opinion in regard to the Virtues of the same Substance in other Forms to countenance it. This Alabaſter is indeed little other than pure Spar arranged into this Form, and we find that Spar in various Forms has at all times been given as a Diuretic, and a Cure for the Stone. The *Lapis Judaicus*, so famous at one time for its Virtues in this Intention, and the *Oſtracites* so celebrated in the Philosophical Transactions on the same Occasion, are mere Spar, and can act only as such, and this Alabaſter doubtless has the same Virtues that either of those has, be those Virtues what they will.

CHAPTER II.

OPHITES.

The Serpentine Stone.

THERE were three Species of the *Ophites* known among the Ancients, all somewhat resembling one another in their Structure and external Appearance, and all celebrated for the same Virtues. They were all of the Marble Kind, the one was Green, variegated with Spots of Black, this they thence call'd the black *Ophites*; another was call'd the white *Ophites* and was Green also, but variegated with white Spots; the third was call'd *Tephria*, and was of a grey Colour variegated with very small black Spots.

The later Authors have misunderstood the Accounts of the Ancients, so far as to look after the black *Ophites* among the black Marbles, and the white *Ophites* among the white ones; the Descriptions they have left us of those Stones, however, shew that the People who have err'd in this manner knew little more of them than the Names. The Shops have at all Times retained the Name of the *Ophites* among the medicinal Simples, and by what imperfect Descriptions of it are to be found among the medicinal Writers, we are to understand, that they understood the green Kind variegated with black, to be that which possessed the Virtues they are all recorded for, in the highest Degree, and to have made it the officinal Species.

The black *Ophites* of the Ancients, or *Ophites* of the Shops, is a very beautiful Marble; it is considerably hard, and of a very compact though a very irregular Texture. The Ground or Basis of this Marble is of a strong green Colour, naturally of a considerably deep Tinge, but occasionally vary'd in the several Pieces of it into more and more pale: Its general Variegations are small irregular black Spots, and undulated Lines of the same Colour; but it is sometimes also found variegated with Spots and Veins of the same Figure, but of a
dull

dull deadish white or of a pale green; there are met with some Blocks which have only the black Variegation, some which have only the white ones, and some which have both; those which have only white, or pale green ones, may be mistaken at first Sight for the white *Ophites*, but the Ancients have left us more certain Distinctions than those of Colour between these two Stones; the black Kind they tell us was very hard, and the white Kind very soft, so that though the properly black *Ophites* should have white Spots, or that which is properly the white Kind should, as is sometimes the Case, have some black ones; the Judicious will still be able to distinguish them to be *Ophites* by the Figure of their Variegations, and to determine the Species by the different Hardness.

There is not indeed any Species of Marble subject to so many accidental Variations as this *Ophites*, the Spots are properly small oblong ones, but sometimes they are large and less determinate, blending themselves in a manner with the Matter of the Mass; the ground Colour is also sometimes of a paler or deader green than common, and sometimes has a Tinge of purplish or blackish running quite through it: all these Varieties sometimes appear in the different Parts of the same Mass, and beside all these we frequently meet with broad white Veins in it, which when examined prove to be of the true *Asbestus* which has been lodged in the accidental Fissures of the Strata. It requires a hard blow to break it, but when broken it appears of a very smooth and even Texture, somewhat bright, but less so than many of the other Marbles, and it is capable of a very beautiful Polish: Heated red hot in a common Fire it becomes of a mottled grey Colour, no green or black, or white remaining. It ferments violently with Aqua Fortis, and when pure is perfectly and entirely dissolved by it; but as it is more or less foul'd by Earth or other extraneous Matter, it leaves a larger or smaller Sediment.

These are the Characters of the true *Ophites* of the Shops, and by an attention to these it may always be discovered under whatever Form. The Ancients found it in *Egypt*, and knew of it in no other Place, but it is now found in many other Places: It is frequent in the Deserts of *Arabia*; in the Islands of the *Archipelago*; nor is our own Country, or other Parts of *Europe* without it. There is much of it in *Italy*, and in *Wales* we have whole Quarries of it: The Island of *Anglesea* also contains a great deal of it, and the *Asbestus* which we receive from thence is most of it found bedded in the Fissures of this Stone.

When the Ancients mention the Word *Ophites* alone and without any Epithet, they are always to be understood to mean this Species; and hence it is that the more accurate among the Moderns have always call'd it *Ophites Veterum*. The old Authors give us great Accounts of its Virtues, but they seem built but upon very weak Foundations; tradition and Hearsay seeming to have been the Origin of them, not Experience. They all join in telling us that it was a certain Remedy against the Poison of the Bite of Serpents and other venomous Animals apply'd externally; sometimes they bound it on in the Lump, and sometimes they sprinkled the Powder of it into the Wound. *Dioscorides* goes yet further, and recommends it in Pains of the Head, but we are apt to believe it is no great Misfortune to the World that the present Practice rejects it.

CHAPTER III.

LAPIS NEPHRITICUS,

The Nephritic Stone.

THE Nephritic Stone is a genuine Species of Jasper, and tho' we hear of a great Variety of Colours in it among the Collections of the Curious, we are to understand that there is but one Kind which stands recorded by the medical Writers as an officinal Simple, and that this is the green one.

It is a very singular Stone, and very easily distinguished from all Counterfeits, tho' many are offer'd continually in its Place, both among the Druggists and the Lapidaries. It is found in Lumps or Masses of an irregular Figure, and in Size from the bigness of a Pigeon's Egg, to five or six Inches in Diameter; we have Accounts of Masses of it indeed much larger, but these are rare: it is of an unequal but glossy Surface, usually full of Prominencies and Cavities, but not rough in any of them; in its irregular Shape it rather resembles our common Flints than any other Fossil we are acquainted with. Its Colour is always green, and this not a pure deep and unmixed one, there is always a Tinge of white among it. The white is sometimes blended with the whole Mass of the Matter, and then only renders the whole of a pale green, at other times it leaves the green deeper and more entire, and is disposed in the Mass in Form of Veins and Variegations; and even in these the white has sometimes taken up a little of the green among it, and the Veins are of an extremely pale green, instead of a perfect white. The Varieties in this Stone arising only from the different Mixtures of these two simple Colours are almost endless, but in general the deeper the green is, the purer and harder is the Stone; but in all these States it is readily known by a peculiar Character, which is, that when broken, tho' it be a very pure and hard Stone, and of a fine Structure, it never affords that glossy Surface the others of the Jasper Class do, but always appear greasy or unctuous as it were; and what is yet more singular is, that the Art of the Lapidary tries in vain to get the better of this, for it has the same greasy Look, when ever so perfectly polished. It is very hard and readily will give Fire like a Flint on being struck against Steel. It will not be dissolved by any known *Menstruum*, the strongest Acids not being able to take the least Effect upon it. Put into the Fire and kept red hot a few Minutes, it loses its green Colour and comes out of a pale grey.

It is found on the Surface of the Earth, and in the Beds of Rivers in many Parts of *America*; it is pretended to have prodigious Virtues as a Diuretic, and to exert them in their full Force on being only worn externally. *Ximenes*, *Monardes*, *de Laër*, and several other Authors tell us of its bringing away great Quantities of Gravel on being only worn on the Loins. The *Indians* also wear it as a Gem cut into various Forms of Birds, Beasts, and Fishes, and hung to their Lips, whence *Gesner* and others have called it *Lapis Oripendulus*.

We hear of its being found in *Germany*, and some other Parts of *Europe*, but on Examination it appears that the Stones found there, compared with the *American* or genuine Kind, prove of very different Species.

The two Kinds of *Nephriticus*, that we most frequently meet with, beside this,

this, are a yellowish one that is not much celebrated for its Virtues, tho' it probably has as much Right as any of the others to that Sort of Praise; and a white one, a very beautiful and elegant Stone, sometimes of a pure snow white, sometimes of a blueish or pearly white, and sometimes of a yellowish or Cream Colour. This is harder than the green Kind, and takes a finer Polish; it is found on the Shores of Rivers, and in the Hills of many Parts of *America*, particularly in new *Spain*. This has the Reputation among the *Americans* of being as strong a Diuretic as the green; they wear it tied to their Wrists in Cases of the Gravel, and persuade themselves that it makes them void Gravel in great Quantities.

C H A P T E R IV.

LAPIS DIVINUS,
The Jade, or Divine Stone.

THIS is another of the Jaspers which has obtained no less an Epithet than we read in its Name from its imaginary Virtues as a Diuretic and an Expeller of Poisons.

It is a Stone of extreme Hardness, but of much less Beauty than the Generality of the Class it belongs to, for it is a true Species of Jasper. It is found in Masses of various Sizes, but usually of an oblong Figure, and of a tolerably smooth Surface; three or four Inches is about the Length of the Generality of these, but they are found up to a Foot or more, and when of that Size are of considerable Value. Its Colour is a greyish green, and seems not simple and uniform, but evidently composed of those two Colours, a very pale, blueish, grey, or ash Colour, and a pale green mixed together; some of the Masses of it have an over Proportion of the one, and some of the other of these Colours; in this Case the greyest are least valued, but it does not appear that it is ever vein'd or spotted, but always uniformly of some one intermediate Colour between absolute green, and absolute grey. It appears but dull and coarse on the Surface, but when broken it shews a fine glossy, flinty Surface, yet in the thinnest Pieces is not much transparent, and it is observable, that it is always more opaque in the grey Parts, than in the green. It is very difficult to cut, being by much the hardest of all the Jasper Class, but when the necessary Pains have been taken with it, it takes a very elegant and high Polish. Heated red hot in a common Fire, it suffers no Change of Colour, but if urged by a very violent one, it loses all its Greenness and comes out of a pale grey or ash Colour.

It is found on the Shores of the *Ganges*, and in many other Parts of the *East-Indies*, and is thence sometimes sent into *Europe*; the greatest Quantity of it however is consumed among the *Turks*, who are very fond of it in their curious Works, and particularly for the Handles of their Sabres. As to its medicinal Virtues we have the Accounts of them from the *Indians*, they wear it externally as a Remedy for the Gravel; they say it promotes Urine extremely, and seldom fails to bring away large Quantities of Gravel with it, when there has been any lodged in the Passages; they wear it also by way of Amulet to preserve them.

them from the Bites of venomous Animals, and tie it to the Part bitten by way of Cure; but all this we leave to the *Indians*. Medicine is upon a better footing here than to receive any such Extravagancies.

CHAPTER V.

HELIOTROPIUM,
The Heliotrope, or Bloodstone.

THIS is a very beautiful Species of Jasper, and has been long known to the World, not only as a Gem, but for its Virtues in Medicine, for which it has been celebrated, we will not say with how much Justice, from the Days of *Pliny* down to our Times.

It is found in rude and irregular Masses of various Shapes and Sizes, tho' the greater Part of them are between one and three Inches in Diameter, and very few much larger. They are perfectly indeterminate in their Form, and more resemble our common Flints than any other Stone, but that they have not the white Coat that they have. The Colour of the Heliotrope is a fine and strong green, sometimes pure and simple, but more frequently with an Admixture of blue in it. It is moderately transparent in thin Pieces, and is always veined, clouded, and spotted with a blood red. This is its most obvious Character, and it is from this that it has obtained, among our Jewellers, the Name of the Blood Stone. It is very hard, but when broken it shews a Surface much like that of the common Flints, and is capable of a very high Polish. It as readily gives Fire as a common Flint on being struck against a Steel; it will not at all effervesce with Acids, nor is soluble in any hitherto known *Menstruum*; in the Fire it loses its beautiful green Colour entirely, and burns to a dusky grey; only that its red Variegations retain their natural Colour, tho' with the same Loss of their Brightness. As singular as this Observation may appear at first Sight, it is easily reconcileable to Reason; the red Parts of this Stone, it is to be observed, are, in the thinnest Plates of it, much more opaque than the green, and have a duller Appearance in whatever Light they are viewed, when the Stone is fresh broken, and the Surface has not been render'd more equal and uniform by Art in the Polishing; the green Part is therefore colour'd by some light Metalline Particles, probably of the cupreous Kind, as the transparent Gems are, but the red owes its Colour to an Admixture of a red Earth; from this it naturally follows, that the red must be the opaque, the green the transparent Part, and that the green Colour must be driven off by Fire, as the Colours of all the pellucid Gems may be, but that the red, which is owing to so fixed a Principle as Earth, must resist the Fire.

The Heliotrope is common in *Ægypt*, *Africa*, and in several Parts of the *East-Indies*. The Ancients were perfectly acquainted with it, and had a way of making a Kind of *Speculums* of it, which they sometimes kept unpolish'd, and used for looking at the Sun in, particularly in Eclipses. They called it the Heliotrope or Changer of the Effects of the Sun, because that the Sun may be look'd at in a Vessel of Water, and in general may not be viewed by the Eye from a reflecting *Speculum*, but on the contrary these *Speculums* gave back its

its Image so dull and dead, that it might be viewed safely in them in Eclipses, but if plunged into Water, that fluid giving it a temporary Polish, as it does to all other Stones, it then return'd the Image of the Sun as bright as any other Reflector, and it could no longer be viewed in it. This is the plain Account of the Properties attributed by the Ancients to this Stone, and usually so much misunderstood by the Moderns.

As to its Virtues in Medicine, it is reported to be of great Effect as an Astringent, either worn externally or taken in Powder. It has been an Opinion pretty universally received, that it will prevent and stop Hæmorrhages, if only worn as an Amulet; but this is a Species of Credulity very happily laugh'd out of the World at present.

CHAPTER VI.

MALACHITES,
The Malachite.

THE Malachite or Molochite, for the Name is written variously even among the earlier Authors, is a Stone of the Jasper Kind, but of less Beauty than most of those of that Class. It is found in small Masses of the Shape of our ordinary Flints and Pebbles, and at the biggest in general not exceeding two or three Inches in Diameter; we are told indeed of *Malachites* of a much larger Size, but all that we meet with as such are false ones: Some of the green Marbles, and sometimes green Jaspers, being cut into Vases, and when their Colour approaches to that of the *Malachite*, called by its Name. It is considerably hard, and when broken it shews a smooth and even Surface, glossy in the Manner of that of our Flints. It is naturally of a pure and deep green, but like the other Stones of this Class, it is sometimes found variegated with whitish Spots and Clouds, and sometimes with such Spots, or with regular Veins of a deep black. It is less transparent than almost any of the Jaspers, and by that Defect loses much of the Value its elegant Colour would otherwise have given it. It is so hard that the Lapidaries expect a particular Price for cutting it, and it takes a higher Polish than almost any of the Jaspers; it very readily gives Fire on being struck against a Steel; it loses all its Colour in the Fire coming out of a pale grey, and it resists the Force of Acids, no *Menstruum* being yet discovered that is a solvent, either for this or any other of the Stones that are form'd upon a crystal Basis. The *Malachite* is found in the *East* and *West-Indies*. The oriental *Malachites* are generally harder than the *American* ones, but they are paler and of less Beauty. We have it also in *Bohemia*, and in some other Parts of *Europe*, but the Specimens found in these Places are ever inferior to the others in Lustre and in Hardness. The Ancients had it from *Arabia*.

It has been at many times in great Esteem as an Amulet, and has been worn about the Neck and Arms as a Preservative against venomous Bites, and for fifty other as ridiculous Purposes. It has also been recommended by some to be given internally as a Purge in Dropsies, and is said to operate violently, both by Vomit and Stool, in so small a Dose as five or six Grains; if, as it is very probable, its green Colour be owing to Particles of Copper. It is not wonder-
ful

ful that it should have this Effect; we have at present however so many other Medicines for all the Purposes it is recommended for, that it does not seem necessary we should have Recourse to such as this.

CHAPTER VII.

SARDA,
The Carnelian.

THE Carnelian, or as it is sometimes, tho' less properly, written Cornelian, is of three Kinds, distinguished by their Colours, a red, a yellow, and a white one; the *Latin* Name *Sarda* well enough expresses all these, but the *English* Term Carnelian, given only on occasion of the Stone's being of a Flesh Colour, serves but very ill for the yellow, and the white Kinds.

Authors who have attributed medicinal Qualities to this Stone have always described the red Carnelian, as the Species they mean; this therefore is to be understood to be the *Sarda* or Carnelian of the Shops. It is a very well known Stone among us. It is found in roundish or oval Masses, much like our common Pebbles, and is generally met with between an Inch, and two or three Inches in Diameter; it is of a fine compact and close Texture, of a glossy Surface, and in the several Specimens is of all the Degrees of red, from the palest Flesh Colour, to the deepest Blood red. It is generally free from Spots, Stains, Clouds, or Variegations, but sometimes it is met with vein'd in a very beautiful Manner with an extremely pale red, or with white, the Veins forming concentric Circles or other less regular Figures, about a *Nucleus* in the Manner of those of the Agates. These white or pale red Veins are the most frequent in the red Carnelian, but sometimes we meet with dark or blackish ones disposed in the same Manner. The Pieces of Carnelian which are all of one Colour and perfectly free from Veins, are those which our Jewellers generally make Choice of for Seals, tho' the variegated ones are much more beautiful; it is tolerably hard and capable of a very good Polish. It is not at all affected by acid *Menstruums*. The Fire divests it of a Part of its Colour, and leaves it of a paler red; it is indeed possible to divest it entirely of this Colour by this Means, and to reduce it to a pale dirty grey, but it requires a strong and a long continued Heat to effect this.

The finest Carnelians are those of the *East-Indies*, but there are very beautiful ones found in the Rivers of *Silesia* and *Bohemia*, and we have indeed some not despicable ones in *England*. The Ancients have recommended the Carnelian in Medicine as an Astringent, and have attributed a Number of fanciful Virtues and Properties to it; but on the whole we seem much wiser, who know no other Use of it than the cutting Seals on it, to which Purpose it is excellently adapted, as not too hard for cutting at a moderate Price, and yet hard enough not to be liable to Accidents, to take a good Polish, and to separate easily from the Wax.

CHAPTER VIII.

ACHATES,
The Agate.

A G A T E being the Name of a whole Genus of the semi-pellucid Gems, we are to have Recourse to the Descriptions of those Authors who attribute medicinal Virtues to it, to find which of the several Species they mean to distinguish as possessed of them.

Many have attributed them to all the Agate Kind, and in all Probability they really do belong as much to one as to another of them; but those who have left us any particular Characters of the Stone meant, have all join'd in giving those which belong to the common white Agate with white Veins, known among our Lapidaries in its common Form, under the Name of the Gambay Agate, and when accidentally variegated with Delineations of Shrubs and Plants the Mocoa Stone.

This therefore is to be establish'd as the Agate of the Shops. It is a very elegant and beautiful Stone, and most of all of the Agate Kind approaches to the Nature of the Onyxes. It is found in Lumps or Masses of a very rude and unpromising Surface of a whitish Colour, and of the Shape of our ordinary Flints and Pebbles. The more usual Size is about two or three Inches in Diameter, but they are found often very small, and sometimes as far as up to five, six, or eight Inches in Diameter; when broken it is found of a very bright and glossy Appearance, of a fine whitish Colour considerably transparent, and vein'd very beautifully with a more opaque white. It is often hollow, or has a larger or smaller Cavity in its Center, and a number of fine and almost imperceptible Cracks issuing from the Sides of this Cavity, and running far into the Body of the Stone; when these are traced farther by cutting, they generally are found to afford the beautiful Figures of Trees, Mosses, and Sea Plants, which are all owing to a fluid impregnated with a blackish or brownish Earth, making its way into the Cracks, and diffusing itself to their utmost Extent, where it lodges its colour'd Particles in these elegant Forms. The white Veins of this Stone are usually disposed in concentric Circles, of a more or less regular Figure, drawn round one or two Points; they are fine and narrow, and are often so little different in Colour, as not to be distinguishable in it, but by a very nice Inspection.

This Agate is in a Manner peculiar to the *East-Indies*. There are found indeed in *Germany* and *Bohemia* Stones somewhat resembling it, and mark'd in many Places with the Delineations of Trees, &c. which render the oriental Stone so valuable; but the Stone itself is vastly coarser, and the Delineations where they occur are less determinate in their Figure.

The Authors who are for attributing Virtues to all the Stones, have recorded this as an excellent Astringent given in Powder, and we are told that only worn externally it becomes a Cure for Hæmorrhages of all Kinds, but the present Practice very worthily rejects it.

CHAPTER IX.

JASPIS,
The Jasper.

THE several Kinds of *Lapis Nephriticus*, and the *Lapis Divinus* or Jade, are all genuine Species of the Jasper; but beside these the Catalogues of the *Materia Medica* retain the Name of the Jasper, simply so called, as a medicinal Fossil peculiar in its Kind and different from these. The Species of Jasper are very numerous, and few of the Authors who have mentioned this Stone have taken any Pains to inform us which of them it was that they meant to recommend as most medicinal; those who have spoken more largely have all however mentioned it as very hard and of a beautiful green; whence it may be inferred that the rest have intended the same, and that the hard bright green Jasper of the *East-Indies* is the true medicinal Kind.

This is one of the finest and most beautiful of all the Jasper Class. It is found in Masses of every various Size and Shape; they usually resemble our Flints and Pebbles, and have frequently very smooth Surfaces, tho' sometimes they have Prominences and Cavities, and are oddly protuberant in several Places; these are the least valued, as it is not easy to cut them to Advantage. The more usual Standard as to Size, is between four and six Inches in Diameter, but there are Masses of it found up to a Foot or more in Diameter, and others not larger than a Horse Bean.

It is of a very beautiful green Colour, generally simple and unmixed, but if it be variegated at all, it is always with white, and this is disposed in it, not in Streaks or Veins, but in Blotches or Clouds, as they are generally called. The Surface it exhibits where fresh broken, is somewhat like that of our Flints; it is capable of a very elegant Polish, and when the white Clouds are well disposed in it, makes a very beautiful Figure, and in Pieces not too thick is tolerably pellucid when held up against the Light: It is indeed very variable in this Quality, not only in different Masses, but in the different Parts of the same Mass, it being not unfrequent to meet with particular Spots in a Stone, on the whole no way preferable to the common Kind, which shall be so very pellucid, and of so good a Colour, as to approach to what our Jewellers call the Root of the Emerald, or *Plasma del Smaraldo*. It is in general one of the hardest of the Jasper Class.

It is found in many Parts of the *East-Indies*, and in *Ægypt*, *Africa*, *Tartary*, and *China*; it is recommended as an Astringent, and ordered to be taken in Powder against Hæmorrhages of all Kinds: the Ancients also wore it as an Amulet to prevent Abortion; they tied it to the Belly of the Person on this Occasion, and they had an Opinion of its being able to stop Hæmorrhages, if only worn on the Arms; at present we do not give Credit to any thing of this marvellous Kind, and consequently the Virtues of this as well as of the other semi-pellucid Gems is greatly out of Repute.

This Jasper put into the Fire loses all its Greenness, and becomes of a fine pale grey.

CHAPTER X.

ONYX,
The Onyx.

THERE are several Species of the semi-pellucid Gem of this Name, but the Authors who have treated of the Virtues of these Bodies in Medicine, have adapted all their Accounts to the blueish white Kind, with brown and white Zones, which is the true *Onyx legitima* of the Ancients, and is therefore to be esteemed the officinal Kind.

It is a very elegant and beautiful Gem, and tho' less eminent in the Variety of Colours, or in their high Tinge, than many of the semi-pellucid Gems, it is perhaps not inferior to any of them in Lustre and Brightness, and by the regular Arrangement and Disposition of its Colours makes amends for their want of Shew. It is found in small Masses of a very irregular and indeterminate Form, some of them are flat, others rounded in the Manner of our common Pebbles, and others are variously protuberant, and resemble the common Flints in Shape. These are usually met with very small; Masses of half an Inch are rare, but there are some found up to two Inches or more in Diameter, and when these are perfect they are of very considerable Value. They are always of a crusted or tabulated Structure. Those Masses which are of the Shape of Pebbles, have usually a Mass of an opaque, white, crystalline Matter in the Center by way of *Nucleus*, and are formed of a regular Succession of Crusts disposed around that: these are some of them white, some brown, and some of a blueish Cast, and are all disposed very evenly and regularly over one another. The *Nucleus* about which they are formed is seldom round, but usually runs into angular Points, and this adds a great deal of Beauty to the Stone, as all the Ranges of the Crusts or Zones follow the Figure of these, and run into the same angular Forms. Those Masses which are flat are found to be not formed on any *Nucleus*, but composed of Plates or Tables of these different colour'd Matters, laid evenly and smoothly over one another: they are usually laid regularly in an alternate Order, and these Masses are for many Uses the best, tho' the others in the Mass, or in a simple Plate cut transversely and polished are much the more beautiful: the blueish Matter may properly be called the Basis of the Stone, and the brown and the white are the Variations; the Matter of the Mass always appears to have been of this, and that of the Zones received into it; they are somewhat less pellucid than the rest, and are always disposed in this regular Order. The Stone is very bright and moderately transparent, and is capable of a very high Polish.

It is found on the Shores of Rivers in the *East-Indies*, and often in new *Spain*, and some other Parts of *America*, as also in *Germany*; but the latter is greatly inferior to the *American* Kind, and that does not nearly come up to the Beauty of the Oriental.

The Characters of the *Onyx* in some Authors who have treated of the *Materia Medica*, would seem to point out the common Kind with blueish Zones, only as that fittest for Medicine; but this other Species seems to have much the most general Claim to that Pre-eminence, tho' as the Credit of these Things stands

stands at present, it would be a very idle Dispute to enter into. The Ancients supposed the Onyx to have wonderful Properties, and imagined, that if only worn on the Finger, it acted as a Cardiac. They have also recommended the Powder of it as an Astringent: But at present it is no more regarded than the rest of this Class of Medicines.

CHAPTER XI.

LAPIS ÆTITES,
The Eagle Stone.

THERE is hardly a Fossil in the World that has been more celebrated for its Virtues than the Eagle Stone; nor perhaps any one which has obtained its Reputation on so idle a Foundation. Its great Character is, that it contains a smaller Stone loose in a Cavity within it, and that this rattles when it is shaken. The Sort of Analogy that was supposed to be between a Stone thus containing another within it, or, as the fanciful Writers used to express it, pregnant with another, and a Woman big with Child, led People to imagine, that it must have great Virtues and Effects in the promoting or retarding Delivery. And on no better a Footing than this, it obtained all the Credit it possessed for so many Ages.

There is scarce any determinate Species of Stone to be described under the Term *Ætites*. Custom has given this Name to every Fossil that has a loose *Nucleus* within it: And of that Number there are several of the flinty Stones, and several different Species of our common Pebbles; which though none of them are determinately and regularly so formed, frequently become *Ætites*, or have loose *Nuclei* by Accident. Many of the crustated ferrugineous Bodies also have their *Nuclei* occasionally loose in this Manner, and are therefore called ochreiferous *Ætites*. In fine, any Fossil that is formed by Incrustation round a central Mass, if it have the Crust immediately covering that, of a lax and crumbly Matter, may occasionally become an *Ætites*.

The most frequent *Ætites* are however formed of a Pebble common in the Gravel Pits about London and elsewhere, and composed of whitish, blueish, and brown Crusts, surrounding a deep brown *Nucleus* in the Centre.

The central *Nucleus* of this Pebble is very hard, and the greater Part of its Crusts are not less so; but the white Crust in particular, which always immediately surrounds this *Nucleus*, and is generally of some considerable Thickness; is of a more coarse, and consequently of a more friable Matter than the rest. The *Nucleus* itself, though hard, is not so fine and pure as that of many of the other Pebbles, and is of such a Texture as shews that it may easily have shrunk in the drying after the Time of its original Formation. The Coarseness of the inner Crust is also a very obvious Reason why it should shrink at the same Time, and the Consequence of the shrinking of these two Parts of the Pebble while the other surrounding Crusts kept their Places, must be the Formation of the Eagle Stone, or of a Pebble with a loose *Nucleus* rattling in it when shaken, which is all that is meant by the Word.

If the *Nucleus* and first Crust are a little coarser in any one of these Pebbles than usual, that will naturally form an Eagle Stone, the *Nucleus* first will shrink

shrink from its original Dimensions more than usual, and in Consequence will loosen itself from its investient Crust which it barely touched before, and there will be a small Cavity between them; this indeed would be but very small, and would give but little Opportunity for the rattling of the Stone within; but the Matter of this inner Crust shrinks also at the same Time, and withdraws itself toward the outer Crusts, and from the *Nucleus*. The Consequence of this is, that the Cavity is yet larger, and the loose Lump in the Centre has Room to rattle about in it, and by Degrees it obtains yet more Room, as every Time it is shook it batters off something more from the Sides of its Cavity, and by Degrees will wear off all this coarse and soft white Crust; and on breaking the Stone it is frequently found buried in a Quantity of Dust, formed only of the mouldered Particles of what was once that Crust.

This is the Origin of this famous Fossil. Its Virtues may be easily enough seen to be idle and imaginary. It is pretended that the Eagles seek for these Stones to lay in their Nests, and that they cannot hatch their young without them; and that if tied to the Arm of a Woman with Child it prevents Abortion, and if to the Leg, that it promotes Delivery, and many a good old Woman believes it to this Day: But this is a Species of Folly, very happily for us, exploded at this Time, and the Virtues of Medicines accounted for on more rational Foundations.

CHAPTER XII.

CRYSTALLUS,

Crystal.

CRYSTAL is the Name of a very large Class of Fossils; the several Species of every Genus of which are all of them of the same Matter indeed, and therefore may be used in Medicine for one another; but so extremely different in Form, that it would take up half a Volume to describe them.

The three most general Forms Crystal appears under, are 1. That of angular Columns, terminated at one End by angular Pyramids, and at the other affixed to some solid Body. 2. That of loose and detached Nodules regularly figured, terminated at each End by angular Pyramids. Some of these have a Column between the two Pyramids, and others want this, and are only formed of the two Pyramids themselves applied Base to Base. The third general Form of Crystal is the globose or round, in which it is found in the Form of our common Pebbles.

These are all the general Forms into which Crystal, when pure, is found concreted. But under the two former of these there are almost infinite Varieties, in the Number of Angles, and the Length, Thickness, and other Accidents of the Columns, and of the Pyramids. When Crystal has received metalline Particles into it at the Time of its Formation, it assumes a Variety of Figures also, wholly different from these: When that Metal is Lead, the Crystal assumes the Form of a Cube; when it is Tin, of a quadrilateral Pyramid with a broad Base; when Iron, the Crystal is found concreted in rhomboidal Crystals. These Crystals are very common about Mines; but the common Spars which are liable to be influenced in the same Manner by the Metals,

Metals, and to appear in the very same Forms, are to be carefully distinguished from them. There is indeed one very easy Test for this Purpose, which is by Means of Aqua Fortis. All Spar in whatever Form being subject to be dissolved by it, and effervescing violently on its only touching it; and all Crystal being safe from its taking any Effect on it.

Monfieur *Geoffroy*, an Author who deserves great Praise for his Treatise on the *Materia Medica*, gives us a very remarkable Instance in his Account of Crystal, of the Necessity there is of a general Acquaintance with Natural History, in order to the treating a Subject of this Kind. He has mentioned three general Forms of Crystal as I have done; but he has mentioned them in a Light that does him no great Honour. He gives us a Description of the double pointed Crystal as the common Kind, though all the Species of this are in Reality so rare, that many of the most curious Collections are without any one of them. His second Kind is the parallellopiped Spar, commonly called Island Crystal, but which is in Reality no Crystal at all, nor carries the Characters of that Class of Bodies, but is soluble in Acids. His third Kind is the *Brontia levis*, or, as we commonly call it, the *Druids* Beads. These are Lumps of Crystal formed by Art by the ancient Inhabitants of our Island. But Dr. *Lister* having once mistaken them for native Fossils, naturally figured and polished, *Geoffroy*, a little unlucky in his Authorities, and not acquainted with the History of the Discoveries of the *English* Naturalists, has supposed this an authentic one, and made these Beads one of his three Kinds of Crystal.

The Pebble Crystal is common enough in most Parts of the World; but that which is formed of hexangular Columns, affixed to a solid Base at one End, and terminated by a hexangular Column at the other, is infinitely more so. This is what we call Sprig Crystal or Rock Crystal; and this is the Species described by the Generality of Authors, under the Name of Crystal of the Shops, or the Species of Crystal to be kept for medicinal Use. This is a very regular and beautiful Body; its Form is that of an oblong Column composed of six Planes; but these not equal to one another, either in Length or Breadth, the greater Extent of some of them leaving but a very narrow Space for the adjoining ones, and the Planes of the Pyramid running down into some of these to a considerable Depth; and in other Places forming only little Specks just at the Point, and suffering the Plane of the Column that supports them to be much longer.

This Crystal, when pure, is colourless, and pellucid as the purest Water; but it is very apt to be fouled by white Spots, Clouds, and Flaws. It is met with of various Sizes, from a Tenth of an Inch to a Foot or more in Length. Its most usual Size however is between one and three Inches. The Planes that constitute the Pyramid are very various in their Manner of differing from one another; in some Specimens of the same Species, only one is smaller and shorter than the rest; in others, two, three, or more are so; and the columnar Planes propagated from all these longer in Proportion. The pyramidal Planes are always smooth and even on the Surface; but the columnar ones are, if nicely examined, all observed to be striated crosswise; or more properly speaking, there are seen on them the Terminations of an infinite Number of thin Plates, which have been propagated from the Pyramid, and which, according to the Quantity of Matter that formed them, have extended more

or less toward the Base, and terminated at different Distances from it. It is seldom found single, usually whole Clusters of Columns of it are met with together, and these are often very oddly thrown together mutilating one another's Figures, and entering into each other's Structure.

It is to be chosen the clearest, purest, and most transparent that can be had; and to prove that it is not Spar, but true Crystal, it may be proper to try it with Aqua Fortis, with which, if genuine, it makes not the least Effervescence: as also to draw a Point of it along a Plane of Glass; if Spar it will leave no Mark behind it, but if Crystal it will cut in the Manner of a Diamond only with less Force, and will make a visible, tho' slight Scratch on the Glass. It is found in vast Abundance in many Parts of *England* and *Ireland*, particularly in the County of *Kerry*: in *Germany* it is yet more frequent than with us, the Fissures of Stone and the Caverns in Mines being almost always encrusted with it.

Tho' it is usually colourless, it is liable however to be tinged with metalline Particles, and to be render'd like all the several pellucid Gems by them. We frequently meet with it about *Bristol* of an amethystine or purplish Tinge, and in *Silesia* and *Bohemia* it is very frequently found stained to the Colour of the Ruby, Sapphire, Emerald and Topaz: In either of these States, when pure, our Jewellers make their Advantage of it, selling it under the Name of an *Occidental* Sapphire, &c. These colour'd Crystals are usually somewhat softer than the pure and colourless ones.

The medical Writers have attributed great Virtues to Crystal. It is generally reported to be an Astringent and Lithontriptic, and after repeated Calcinations and Extinctions in cold Water, it is reduced to a fine Powder, and given a Scruple or half a Dram for a Dose in Diarrhoeas, in the *Fluxus Albus*, and in Cases of Gravel in the Kidneys. Many are afraid of the Use of these stony Medicines in Nephritic Cases; and tho' the Use of Spar has not only been countenanced at various times by medical Writers, under the various Forms of the *Lapis Judaicus*, and the *Ostracite*; the former of which is always composed of Spar, and the latter is to be selected of the same Matter for this Purpose; but People have without Advice found out these Remedies among themselves; yet it is not a settled Point whether they tend more to cure the Stone than to cause it. The Objections against Spar will hold good against Crystal, and the Use of one will in this Intention be supported, or will fall with the other; but there seems yet to require Proofs to determine this Point.

In general however Spar is an Alkali, and Crystal not; which makes a considerable Difference between them in other Intentions. Some have recommended Crystal very much as a Dentifrice; there is indeed no doubt of its cleaning the Teeth, but it is of the Number of those hard Bodies, a constant Use of which wear away the Enamel of the Teeth by Degrees, and subjects them to decay.

CHAPTER XIII.

FLUOR,
Spar.

SPAR is a fossile Body so much resembling Crystal in its external Appearance, especially where Crystal is not absolutely pure, that they are frequently mistaken for one another. It is a Fossil naturally pellucid, and is found in an almost infinite Variety of Forms; in some of which it retains its Transparency and Purity, in others it is more or less debased by an Admixture of Earth, and grows accordingly less and less clear, till from the marbly Hue of some of the more moderately debased Kinds, it sinks in some to a mere earthy Appearance. The general and distinguishing Characters of Spar in whatever Form it occurs are these; it will not give Fire when struck against Steel, it very briskly ferments with Aqua Fortis, and when pure is totally dissolved by it, and it calcines very readily in a small Fire: these are Characters directly opposite to the Fossil, which, of all others, most resembles it in its purer State, and may most easily be confounded with it, and therefore are the most essential ones to those who would distinguish them.

If Crystal be subject to a vast Variety of Appearances, under which it constitutes different Genera, Spar is much more so. It may be observed in general, that as the hexangular Figure seems that peculiar to Crystal, so the trigonal is to Spar; but both the one and the other of these Bodies in certain Instances deviate from this general Rule; the Crystal does this only in a few, the Spar in many. There are of Spars as of the Crystals, some perfect and regularly figured ones, composed of true Pyramids, joined by an intermediate Column, and of these the Columns and Pyramids in some are hexangular, in others pentangular, but in most trigonal. There are also Spars composed of only two Pyramids joined Base to Base, without any intermediate Column, and in some these Pyramids are octangular, in some hexangular, and in some trigonal. Among those which emulate the Appearance of the common Sprig Crystal, and are composed of a Column affixed to some solid Base at one end, and only terminated by a Pyramid at the other, some are hexangular, some pentangular, and some of the more natural and frequent Form, trigonal. Among those composed of Pyramids alone without any Columns, some are hexangular also and some trigonal.

Beside all these columnar and pyramidal Spars, there are others regularly figured and formed of similar, regular, and angular Particles; of the Number of these are those which are composed of parallelloiped Particles, and always assume in the whole Masses a parallelloiped Form; such is the famous Substance erroneously called Island Crystal, and those which, tho' of a rude and irregular external Form, yet always break into regular rhomboidal or parallelloiped Fragments. Beside all these, which are tolerably clear and fine, tho' some much more so than others, there are a Multitude of other Appearances of this Fossil in a more foul and debased State; of the Number of these are the crusted Spars formed on Bodies of the stony Kind, and in the Fissures of Rocks, or on vegetable Matters, &c. In Springs, the Water of which abounds
with

with sparry Particles: of these there is almost an infinite Variety, some being very pure and bright, others almost entirely composed of Earth. To these are to be added the Bodies called *Stalactites*, or stony Icicles, and *Stalagmites*, or drop Stones, which are all of Spar, and are found hanging from the Roofs, or encrusted on the Floors of Grottoes and subterranean Caverns; and after all these we are to mention the Spars influenced in their Figures by metalline Particles: these are very frequent about Mines, and are often colourless, tho' sometimes tinged very beautifully to the Colours of the Gems. When Lead has been the Metal that has influenced the Figure, the Spar is of a cubic Form, when Tin it is a Pyramid consisting of four Planes, and when Iron the Figure is rhomboidal, consisting of six Planes.

After this Enumeration of the various Kinds of Spar, as to Figure, for the Substance is, when pure, the same in all, it remains to observe, that it is to be chosen for medicinal Purposes of any Figure, so it be clear and pellucid; the columnar Kinds are usually the most clear, but they are the more rare, and Fragments of the massy shapeless Kinds, which naturally break into rhomboidal Fragments, are therefore to be recommended. In the breaking of these to Pieces, there will be found sometimes Masses as pellucid as the finest Crystal, and which if laid upon a Line drawn with Ink on Paper, shew it double in the Manner of the Iceland Crystal. These perfectly dissolve in Acids, and are as pure as Spar can be in any Form.

The Spars in general are found in the Fissures of Stone and about Mines; our County of *Derby* affords enough of them to supply the whole World, and the *German* Mines afford yet more than those of that Place.

It has been a received Opinion from the very earliest Times, that Spar was a Cure for Nephritic Complaints; People in different Ages, and in different Parts of the World, have had Recourse to it under various Forms, and by various Names, not knowing it to be the same Substance under so many different Appearances, and all for this Disease. Some have taken the sparry Incrustations of Caverns, some the *Lapis Judaicus*, which is mere Spar in its Substance, tho' owing its Form to Accident, some petrified Oyster Shells, whose Pores have been filled with Spar, and some Water, in which Spar is sustain'd in large Quantities. There are several Springs in *Germany* famous for the Relief they are said to give in Nephritic Cases, the Water of which can have no other Means of acting as a Medicine, but by the Spar it contains, and which contains that in such Abundance, that any extraneous Substance thrown into the Spring is crusted over in a few Hours with it. From these numerous Recommendations perhaps it may be thought worth while by some Body to try whether Spar has such Virtues or not, and in this Case it will be much better to use some determinate Kind of Spar in its natural Form, than to give it in Appearances under which it may be confounded with other Bodies.

S T O N E S

Used in M E D I C I N E

Of the pellucid or Gem Kind.

Of these there properly are four.

1. The GARNET.

2. The HYACINTH.

3. The SAPPHIRE.

4. The EMERALD.

And to these we are to add seven others, whose Names have Place in the Catalogues of the *Materia Medica*, tho' less used in the Shops. These are,

1. The RUBY.

3. The TOPAZ.

5. The OPAL.

7. The DIAMOND.

2. The BERYLL.

4. The AMETHYST.

6. The CATSEYE.

BODIES of this Value in the common Affairs of Life have, like Gold, been brought into the Catalogues of Medicines, as if their Virtues must necessarily correspond to the Price their Scarcity has fix'd upon them: but tho' the Chemists have attempted at all times to extract Tinctures from them, we do not find that they have ever fairly succeeded in it; and tho' they are made Ingredients in some of the Compositions of the old Dispensatories, it has not yet been proved to the World that they have in Reality any medicinal Virtues. The Matter has been much disputed, but it is scarce worth the enquiring into, all the Virtues they can possibly be supposed to possess, must be owing to the small Quantity of the metalline Particles they are tinged with, and it is certainly easy for us to find Means of throwing those Substances into the Blood without being at the Expence of pounding Gems to get at them. We are not however to omit the Characters of the several Kinds, whose Names stand on the Catalogues of the *Materia Medica*. Five of the Gems have been more celebrated than the rest for their Virtues, and have been honoured with the collective Name of the *Fragmenti quinque pretiosi*, or the five precious Fragments. The Gems upon this List are four of the pellucid, one of the semi-pellucid Kind; the last is the *Sarda* or Carnelian, described before in its Place; the other four, which properly come under Consideration here, are, as before observed, the Garnet, the Hyacinth, the Sapphire, and the Emerald.

CHAPTER I.

GRANATUS,
The Garnet.

THE Name of this pellucid Gem comes so very near that of one of the harder Marbles, the *Granite*, that they are sometimes misunderstood for one another. It is to be remember'd that the Gem, not the Marble, is always intended when the Garnate or *Granatus* is mention'd by the medical Writers.

The Garnet is, when perfect, a very beautiful Gem, little inferior indeed to the Ruby: but this is a State it is very seldom seen in; it is of all the Gems the most subject to Flaws, Faults, and Blemishes, and in the different Specimens is of all the different Degrees of Colour, from the deepest Blood red to Flesh Colour. It is in Hardness much inferior to the rest of the Gems in general, but it somewhat exceeds Crystal in this Quality; it is very various in Size, a prodigious Number of Garnates being found that are not much larger than Pins Heads, and from this Size to that of a Pea, or even of a Horse Bean are not uncommon, but larger than these are rare, tho' we have Instances of Garnets up to an Inch in Diameter. It is never found in a columnar Form, its most usual Figure is that of a small roundish Pebble, of this Kind we sometimes meet with it in the Shops of our Druggists; but the most usual Form we there find it in, is that of an irregularly angular Figure, the more perfect Masses approaching to the dodecahedral Form of some of the *Pyritæ*; these are true Garnates, but they are of a very poor Colour; and if we could safely say that the Garnate was good for any thing in Medicine, this might be said to be the only thing they were good for.

The Colour of Garnate is naturally a strong red with a faint Cast of blueish, it most resembles the Ruby in its paler Masses, but these want the Fire and Lustre of that Gem both in their rough and polish'd State. Our Jewellers distinguish the Garnets that fall into their Hands into four Kinds, which they give four several Names to. What they simply call the Garnet is of a deep red, with a faint Cast of blueish, a second Kind, according to their Distinctions, is of those Garnets which have a very strong but less deep red, and that with a larger Portion of blue among it; this Kind they very improperly call the Rock Ruby: When the Garnate is of a brighter red, approaching to the Cinnabarine Colour, and has very little blue in it, they call it the Sorane, or as they speak it, the Serain Garnate, and finally when it is of the same Sort of Tinge with the Rock Ruby, but only paler, it is called the Almandine.

The Generality of these Artificers greatly confound these Names, but when they have any distinct Meaning it is the describing by them the Colours here mentioned. The Garnate is found in the *East-Indies* and in some Parts of *Europe*, particularly in *Silesia* and *Bohemia*; but there is a great deal of Difference between the Stones produced in these two Parts of the World, so that the Terms *Oriental* and *Occidental* Garnate signify a very essential Difference in Beauty and Value when properly applied. The *Oriental* ones are found in the Earth of Mountains, and in the Beds of Rivers, the *European* Kind are generally bedded in Stone.

The Ancients had not any peculiar Name for this Gem; but they knew it very well, and reckoned it among the large Genus of Carbuncles, a Name they made generical and expressive of almost all the red Gems in the World. We don't find that they had any great Opinion of its Virtues in Medicine, but the Ingenuity of after Times has endeavoured to find many different Virtues in it; we are told that reduced to Powder, or only worn as an Amulet, it is a Cordial, and probably there is as much Effect in it one Way as the other. The earliest Authors we find mentioning it, dreaded its Use, as supposing it of a fiery Quality, and that it heated the Brain, disturbed the Course of the Blood, and occasioned Anger. But probably there is not much more Foundation for the bad Opinion these Authors had of it than for the good one. Some suppose it to have only the Virtues of the common Crystal. Mr. *Geoffroy* is of Opinion that it contains Iron, and therefore may possess some of its Virtues, which however he tells us, we have in a much more advantageous Form in the Crocus's and Tinctures of that Metal. We may add, from Experiments often repeated, that the dodecahedral Garnates sold by our Druggists contain also Tin; and as Arsenic is a very constant Attendant on the Ores of Tin, this ought to deter People from the Use of this Species of Garnate; at least if the general Neglect of the present Practice of it had not put it safely enough out of the Way of doing Mischief without this Caution.

It is remarkable that the Garnate will not be divested of its Colour by Fire, though almost all the other Gems easily part with theirs by the same Means. If exposed to the Focus of a large burning Glass, it by Degrees melts into a Sort of Slag which has a metalline Appearance, and shews some Particles of Iron among it, by its being attracted by the Magnet.

CHAPTER II.

H Y A C I N T H U S,

The Hyacinth.

THE Hyacinth is less striking to the Eye, than any other of the red Gems; but it is not without its Beauty in its finest Specimens, or in its purest and brightest State of Perfection. It has also the Advantage of being very seldom found blemished or faulty, though the Difference of its Colour in the different Specimens make a very great Difference in their Value. It is of various Sizes, from that of a Pin's Head, up to a third of an Inch in Diameter; there have been found at Times much larger than these, but they are very rare. It is like common Crystal found sometimes in a columnar, sometimes in a pebble Form; and in the latter of these Masses, it is ever the harder and brighter; though in the former it strikes the Eye at first Sight, and seems to promise much more.

The Columns are generally somewhat long and slender, and are terminated by a small Pyramid, and they are always clearer, and their Colour much finer towards the Top of the Column than near the Base. In the pebble State it is found to be considerably harder than Crystal, though much inferior to the Ruby or Sapphire in that Quality. Its Colour is a dull or deadish Red with

an Admixture of yellow in it. The several Stones have this mixed Colour in all Degrees, from very deep, to very pale: and in all the Variety of Tints that a Prevalence of the Red or of the yellow in different Degrees can give it. The Red is not often so predominant as wholly to drown the Yellow; but we meet with Hyacinths from those where the Tinge of the Yellow is barely perceptible to such as leave that the prevailing Colour; but these are uncommon. It is upon the whole sometimes so deeply tinged, as not to appear transparent unless held up against the Light; and we meet with some Stones of it almost colourless. Its general Colour is that Mixture of red and yellow, which we express by the Word Flame Colour.

Our Jewellers allow all those Stones to be Hyacinths or Jacinths, that are of a due Hardness with this mixed Colour; and as they are of very different Beauty and Value in their several Degrees and Mixtures of Colours, they divide them into four Kinds; three of which they call Hyacinths, but the fourth very improperly, a Ruby. 1. When the Stone is in its most perfect State, and of a pure and bright Flame Colour, neither the Red nor the Yellow prevailing, in this State they call it the *Hyacintha la Belle*. 2. When it has an over Proportion of the Red, and that seemingly of a duskyer Colour than the fine high Red in the former, and the Yellow that appears in a faint Degree in it, is not a fine, bright, and clear, but a dusky brownish yellow, then they call it the Saffron Hyacinth. 3. Such Stones as are of a dead whitish Yellow, with a very small Proportion of Red in them, they call Amber Hyacinths. And 4. When the Stone is of a fine deep Red, blended with a dusky and very deep Yellow, they call it a Rubacelle. The over Proportion of a strong red in this Gem, has made People refer it to the Ruby Class: But its fair and evident Admixture of Yellow, shews that it truly belongs to the Hyacinths.

The Hyacinth *la belle* is found both in the *East* and *West Indies*. The *Oriental* are the harder, but the *American* are often at least equal to them in Colour. The Rubacelle is found only in the *East Indies*, and is generally brought over among the Rubies, but it is of little Price; the other two Varieties are found in *Silesia* and *Bohemia*.

Our Druggists usually keep under the Name of Hyacinths, small Garnets of the Size of Grains of Sand; some of them of the smooth pebble Kind, somewhat resembling the native Rubies, and others angular. They have the former from *Poland*, the latter principally from *Bohemia*; but neither of these are to be received as true Hyacinths. We sometimes, though rarely, meet with the third Kind or Amber Hyacinths described above among them. And if any Strefs were to be laid on the Virtues of this Stone, these are the only Kind that should be received. There are a very small and bad Kind of the Amber Hyacinth that are kept among them, being whiter than those received among our Jewellers, and no larger than a coarse Sand. They are found in the Beds of Rivers in *Bohemia*; and the People who pick them up, generally take Care to mix some Sand among them.

Our Druggists would persuade us, that the Stones of this last Kind are true *Oriental* Hyacinths. But beside that we know of the very same being found in *Bohemia*, the Want of Hardness in the very finest of those they sell, prove them of the *Occidental* Kind.

It

It is evident from all that the Ancients have said of the Hyacinth, that our Hyacinth is not the Stone they meant by that Name. They called it Hyacinth from the Resemblance it had in Colour, to the Flowers of the Plant of that Name ; and evidently expressed by it a Gem of the Amethyst Kind, with a great Admixture of Blue among the Purple. It is not clear that we at this Time ever meet with the Stone they expressed by this Name ; though we sometimes meet with Amethysts with a good deal of the sapphirine Tinge in them. Our Hyacinth was known however in their Times, though not under so absurd a Name ; they called it *Lapis Lynceus*, a Term sometimes understood by their Commentators to have meant the Belemnites, and sometimes Amber ; but which a fair and candid Examination of their Works proves to be this Gem. *Theophrastus* says it was of a Flame Colour, hard, and solid, and used to engrave Seals on ; and *Pliny* calls it a Stone resembling the Ruby, but that it was of a Flame Colour ; both these, and all the other Writers of Antiquity, ranking it among the Gems. The Hyacinth thrown into a gentle Fire of Charcoal loses its Colour, and comes out of a perfectly crystalline Hue.

The Ancients have attributed great Virtues to this Gem ; and later Writers have been so much of their Opinion, as to make it the Basis of a cordial and astringent Confection, which takes its Name from it. It is generally said to be cordial, restorative, and moderately astringent ; and some have added, that it is hypnotic. But we are afraid these Virtues stand but upon a precarious Footing of Credit. The Ostentation of bringing the most costly Things into Medicine, seems to have given the original Hint for using the Gems in general, rather than any rational Opinion of their Virtues ; and if there were nothing else against it, one would be cautious of their getting into Use, were it only from the Uncertainty of what Apothecaries meet with under their Names at the Druggists.

CHAPTER III.

S A P P H I R U S, *The Sapphire.*

THE Sapphire is one of the first in the Rank of Gems, when perfect and in its purest State. It is equal in Hardness, in Lustre, and in Price, to the Ruby or any other of the coloured Gems. It is found usually in the pebble Form ; that is, in small roundish or flattish Masses with no Angles, with smooth Surfaces, and somewhat glossy. And in this State its usual Size is that of a Pea ; the more rare Stones are as large as a Horse Bean ; and some have even been found pure and fine of more than half an Inch Diameter. Their Value does not always rise in Proportion to their Size in this their rough State, for these Pebbles are often of so irregular a Form, that there is no working them whole into one Stone, but they must be cut into two or three ; and often one Part of them is well coloured and the other not.

The pebble Sapphires, though they have some Brightness, have not by any Means the Lustre and Beauty of the native Ruby. This is the more usual Form of this Gem in its natural State ; but it is sometimes also found in the angular and columnar Form. In this State it always forms a hexangular Column,

lumn, -terminated by a short hexangular Pyramid, and perfectly resembling a Sprig of the common Crystal, but that it is of a beautiful blue Colour. There is great Variety in these columnar Sapphires; they seldom stand single; but Clusters of them are found together: Among a Congeries of Ten or a Dozen of them however it is rare to find more than one or two that are duly and thoroughly coloured. Some are tinged only at the Point, and a little Way down the Column: Some have a faint Tinge of the blue scarce perceptible; and others are perfectly pellucid and colourless. These are the true and genuine white Sapphires: They are very beautiful, extremely bright, and of a fine Water, far exceeding any other Stone except the Diamond. Our Jewellers have a Way of selling Crystals well cut under the Name of the white Sapphire, and have debased the Value of the Stone in the Opinion of the World; but when a genuine white Sapphire is met with it, is easily seen to be something very different from all the Counterfeits.

Beside the several Shades or Degrees of Colour between the deepest Indigo Blue, and the pure colourless and pellucid crystalline Hue, of every Degree of which we find Sapphires; there are also some met with which have very little of the Blue, but have with it a fine pearly Whiteness; these have less Pellucidity than the others; they are called, from their milky Hue, Milk Sapphires; and but that they want the changeable Colours of the Opal, have some Resemblance of that Stone. There is something very beautiful in the milky Sapphire in its ordinary State; but it is at Times found tinged with other Colours, with any of which it makes a very beautiful Figure. I have lately met with one among the Jewellers, which had the Emerald Green in about the same Degree in which the Diamond sometimes is tinged with that Colour: This with the Mixture of the milky Whiteness made a very elegant Figure; but the most beautiful of all the accidental Tinges of this Stone is the Red. The Lord *James Cavendish*, at this Time, possesses one of these among his valuable Collection, which is one of the prettiest Stones in the World. The Pebble Sapphires in general are harder, and have more Lustre than the crystalliform ones. There are colourless ones among these, as well as among the others, and they are more valuable. The Sapphire is of very different Degrees of Hardness, Lustre, and Value, according to the different Places whence it is found. Our Jewellers make four Kinds of it. 1. When the Stone is in its utmost Perfection, finely coloured with a bright, though strong Blue, and of the same Degree of Hardness with the Ruby, they call it the *Oriental* blue Sapphire; these Stones are very scarce, and of a very great Value. The second Kind is what they call the white Sapphire; but this is an improper Name, as the Stone has not the least Whiteness in it, but is perfectly colourless as the purest Water. The third Kind includes the Sapphires of *Silesia* and *Bohemia*, which are of a pale Blue, and scarce harder than Crystal: These are vastly inferior in Lustre to the *Oriental* ones, and these they call Water Sapphires. The fourth Kind is the milk Sapphire above mentioned. The *Oriental* Sapphires are brought from *Pegu*, where they are found of all Shades of Blue from the palest Tinge up to the deepest Violet. When any of these are ill coloured, they are sometimes divested of their Colour by heating in the Fire, and sold under the Name of white Sapphires. The pebble Sapphires of the *East Indies* are more valuable than the columnar; those of *Pegu* are all of this Kind. We have some pebble

ble and some columnar or crystalliform Sapphires from *Cananor* and the Island of *Ceylon*, which are often very fine ; and we sometimes see Stones half Sapphire, half Ruby ; that is, in Part Red, and in Part Blue from this Part of the World. The red of these Stones is true Ruby, the blue Part true Sapphire ; and from this it is easy to see that the Matter of these two Gems is the same, and that they only become different as they have imbibed different Colours. The *Occidental* Sapphires are the Produce of *Silesia* and *Bohemia*. They are often very beautiful, but softer and of less Lustre than the *Oriental*.

The Ancients did not know this Gem under the Name of the Sapphire : What they called by that Name, was a peculiar Kind of the *Lapis Lazuli* with the Blue very deep and fine, and the golden coloured Matter disposed in Stars : They were well acquainted with our Sapphire, and called it *Beryllus A-eroides*, the sky blue Beryll.

It is not much to the Credit of the Druggists, that after having thus described the several Kinds of this Gem, we have still to describe the Sapphires they keep for medicinal Use : There are none of these that have so much as the Colour of the true Sapphire to recommend them to us : We sometimes find among them a small Kind of Pebble Garnets of the Size of a Pin's Head, but more usually a dusty, ferrugineous Matter, with neither the Lustre, Colour, nor Transparency of a Gem, and which will in great Part be attracted by the Magnet. It is not easy to conceive, by what Means a Substance so very different from not only the Gem whose Name it carries, but from all the Gems in the World, should have got into the general Use that this has in the Shops ; not only our own Druggists, but those of *France* and *Germany*, all having it under the Name of the Sapphire.

The Sapphire is said to have very great Virtues as a Cordial, Sudorific, and Alexipharmic ; but we have no good Testimony of any Body's ever having found this by Experiment. And indeed if the Gem had any, we are in no Way of profiting by them, while we are to give a ferrugineous Body under its Name.

CHAPTER IV.

SMARAGDUS, *The Emerald.*

THE Emerald is perhaps the most beautiful of all the Class of coloured Gems when perfect : The Ruby has more Fire indeed, but the Beauty of the Colour in a fine Emerald gives it a Preference upon the whole, though inferior in that very remarkable Quality. The Emerald is found sometimes in the roundish or pebble Form, sometimes in the columnar or crystalline one ; the pebble Emeralds however are the most valued. They are met with of various Sizes, but usually very small ; there are Multitudes found of the Size of a large Pin's Head, for one of any tolerable Bigness ; though now and then there occur Stones of the Size of a Horse Bean, and even up to that of a Walnut : Such however are not met with above once in an Age or two. The pebble Emeralds are found loose in the Earth of Mountains, and in the Beds of Rivers ; the crystalliform ones are usually met with adhering to a white,

white, opake, crystalline Matter, though sometimes to Pieces of Jasper or of the *Prasus*, a coarser and softer Gem of the same Colour, only with some Tinge of a yellowish Cast, and called the Root of the Emerald. The Pebble Emeralds are in their natural State bright and transparent, though less glossy than the columnar ones; both are ever of a perfect and pure green, without the least Admixture of any other Colour. It has this green in all the different Shades, from very dark to extremely pale, and is probably sometimes entirely colourless; though then it is sure to be called the white Sapphire; our Jewellers calling all colourless Stones superior to Crystal in Hardness and Lustre, by that Name.

Emeralds are found in the *East-Indies*, and in many Parts of *America*, particularly about the Gold Mines of *Peru*; they are also met with in *Silesia*, *Bohemia*, and in some other Parts of *Europe*; but they are very different in Lustre and Value as they come from these different Parts of the World. The *Oriental* Emeralds are of equal Hardness with the Sapphire; those of *Peru* are of much the same Hardness with the Garnet; and therefore of proportionably less Beauty and Lustre than the *Oriental*; as to those of the several Parts of *Europe*, they are but little harder than Crystal; our Jewellers indeed pretend that they are not at all harder than that Stone; but this is owing to what they meet with under the Name of *European* Emeralds, not being in reality Emeralds at all, but only Crystals tinged green by Copper, and usually found in Mines of that Metal. These are indeed very beautiful Stones, but vastly inferior to the very worst of Emeralds in Hardness. The *Oriental* Emeralds are at present found only in *Cambay*, and are there very scarce, and few of them of late Years have been imported into *Europe*; the Princes of that Part of the World being themselves very fond of them. It has been supposed from this, that there are not in Reality any *Oriental* Emeralds, nor ever were; but this is a very absurd Opinion. The Quantities of them among the *Regalia* of the Monarchs of that Part of the World, and their Superiority over all others are alone sufficient Proofs, if there were not a thousand others, to prove that not only Emeralds but infinitely the finest Emeralds in the World are produced there. What we see among our Jewellers under the Name of *Oriental* Emeralds are all from *Peru*, and are many of them very beautiful; they are found in the Mountains over the Gold Mines, among a dusky greyish Earth that fills up the perpendicular Fissures of the Strata of Stone, and sometimes adhering to the Sides of those Fissures in their crystalline Shape.

The *Smaragdus* of the Ancients was very evidently the same Gem with the Emerald of our Times: We mean what they described as their genuine and fine Emerald; for they comprehended also under this Name every Gem, or even Stone of any considerable Beauty and of a green Colour. It is evident that they called the finer green Jaspers by this Name, and probably some of the finer green Marbles also; otherwise we cannot well comprehend what they meant by their Description of Pillars of many Feet in Length formed out of one solid Emerald.

The Emerald is of the Number of those Gems that owe their Colour to the metalline Sulphurs, and therefore lose it in the Fire. An Emerald thrown upon burning Charcoal emits a fine thin greenish Flame, and immediately becomes colourless as Crystal; though still very hard and of a fine Lustre.

Our Druggists ought to sell us for medicinal Uses the Chippings and Fragments of this Stone, or those small Emeralds which are fit for no other Purposes though genuine. But instead of this, they keep under the Name of this Gem, Fragments of coloured Crystals and Spars which are found in Abundance about the Mines of Copper and Iron. It is very certain indeed that the Emerald owes its Colour to the former of these Metals, because the factitious Pastes or Glasses may be coloured to a true smaragdine Hue by Copper: But it does not follow that all the green Crystals and Spars in the World have the Particles of the same Metal in the same Proportion, or that they have not also other Particles very improper to be given internally.

The Virtues ascribed to this Gem by fanciful Authors are numberless; but what we are informed of with most Appearance of Certainty in Regard to it is, that it will stop Hæmorrhages and Diarrhœas, and sweeten or obtund the too acrid Humours. But as this is recorded of the Emerald as found among the Druggists, it belongs, if we are to believe there is any Truth in it, rather to the Crystal than to the Gem. And perhaps it would be better for the World if both this and the other Fragments of the Gems were banished from the Compositions in which they are ordered, and common Crystal used in their Place. In that Case we should know that what we gave was innocent at least, which is what we are far from being assured of, as the Case now stands, with Regard to what we see under the Names of them in the Shops.

Of the Pellucid Gems less used in Medicine.

AMONG the Number of the pellucid Gems which have only a Place in the Catalogues of the *Materia Medica*, but have not the Honour to be made Ingredients in any of the Compositions; we are to reckon, 1. The RUBY. 2. The BERYLL. 3. The TOPAZ. 4. The AMETHYST. 5. The OPAL. And 6. The DIAMOND.

Of these we shall say the less, as the Knowledge of them is less essential to the Medical Reader; though it might be construed an Omission if we had wholly passed them by.

CHAPTER I.

RUBERIUS,

The Ruby.

THE Ruby is equal to any Stone in Beauty and in Value after the Diamond. It is not found in the Variety of Forms many of the other Gems are, but always in the Pebble Shape. No Body ever saw a columnar or crystalliform Ruby in the World. Our Jewellers indeed sometimes meet with Stones of a very elegant Colour of this Shape, which when wrought, are sold for Rubies; but those who work them know the Difference. And those who know the true Tinge of Colour of the Ruby, can judge of them at Sight, and know they are not so.

The common Size of Rubies is that of a Pin's Head, but among these there are met with considerably large ones, which when pure and free from Blemishes are of very great Value: The Ruby is second only to the Diamond in Hardness; its Colour is a fine and glowing red which it possesses in the several Specimens, in all the Shades and Degrees from the deepest blood Colour to the pale fleshy Tinge of the red Diamond: In the deeper Stones there is always a faint Tinge of purplish distinguishable among the Red, but this grows less and less perceptible as the Colour is paler, till in the common pale Rubies it is wholly lost to the Sight, except a very experienced and nice Eye, accustom'd to the Examination of the Colour of the Gems, is employ'd to discover it. In the native State its Figure is usually roundish, sometimes oblong, and sometimes Pear fashioned, but almost always flat on one Side, and its native Polish is so good that it is very frequently worn without any help from Art.

Our Jewellers distinguish the Ruby under its several Shades of Colour, into three different Kinds. When its Colour is strong and full they call it, simply, the Ruby; when the Colour is paler, and the Stone less bright and fine, they call it a Spinel Ruby; and when it is pale but full of Spirit and Lustre, they give it the Name of the Balas Ruby: The Colour of this Gem is perfectly that of the pale Damask Rose, and its Lustre equal to that of any Gem, except only the Diamond. The small Rubies are very pale usually, and shew very little of the purplish Tinge. The Jewellers also tell us of two other Kinds, the Rock Ruby, and the Rubacelle, but neither of these are truly of the Ruby Kind; the first is a Garnet of a peculiar Kind, and the other a Species of Hyacinth, both before described under those Heads. We have Rubies, truly so call'd, only from the *East-Indies*, and they are found there; scarce any where else except in the Mountain *Copelan* in *Pegu*, and in the Beds of Rivers, and some of the Mountains in the Island of *Ceylon*. The Ancients knew the Ruby of our Times, they confounded it however with a multitude of other Gems of the same Colour, under the Name of a *Carbuncle*.

There are not wanting medical Authors who tell us, that the Ruby is the highest of all Cordials, but nobody at present seems in a Humour to try so improbable a Medicine. It seems to owe its Colour to Gold, it being possible to separate a small Portion of Gold from the little native Rubies; and also to give the true Colour of the Ruby to factitious Paste, by Means of that Metal.

CHAPTER II.

BERYLLUS, *The Beryll.*

THIS is a Name very much misapply'd at present, our Jewellers calling one of the brown Crystals, and also the finer Carnelians by it, but it truly and properly belongs to a pellucid Gem, of a blueish green Colour, which the Ancients call'd by this Name, and which they also sometimes use it for; though they generally call it the *Aqua Marine*, or as they speak it, the Egg or Eagle Marine.

It is, when perfect and free from Blemishes, a very beautiful Stone, though of no great Price at present. It is found, like most of the other Gems, both in
the

the pebble and columnar Form, but in the latter most frequently. In the pebble Form it usually appears of a roundish but flatted Figure, and commonly is full of small flat Faces irregularly disposed. Its most frequent Size in this State is that of a small Tare, and from this it is found up to that of a Pea, a Horse-bean, and even a Walnut. It is however much more frequent in the columnar or crystalline Form, in which it always consists of hexangular Columns terminated by hexangular Pyramids; these are found in Clusters, ten or more usually together in the Fissures of the solid Strata growing to the Stones. It is ever regularly of a pale Colour, form'd of a Mixture of blue and green; it never receives any other Admixture of Colour into it, nor loses any one of these, but it has its genuine Tinge in all the Degrees, from a very deep and dusky to the palest Tinge imaginable, of the Hue of Sea-Water.

The Beryll in its most perfect State approaches to the Hardness of the Garnet, but it is often softer: Our Jewellers in general will tell us it is no harder than Crystal, but this is owing to their own Ignorance, in the not distinguishing between colour'd Crystals of this Tinge, and true Berylls. Blueish green Crystals are not uncommon in Mines where there is Copper and Iron; and they are scarce less common under the Name of Berylls among the Jewellers, but these are not to be confounded with the genuine Gem.

The Beryll is found in the *East-Indies*, particularly in the Island of *Ceylon*, and about the Gold Mines in *Peru*: We have also some from *Silesia*, but what are brought from thence are oftener colour'd Crystals than real Berylls; and when they are genuine they are greatly inferior, both in Hardness and Lustre, to the Oriental and Peruvian Kinds.

The Beryll loses its Colour in a Charcoal Fire, it emits a thin and fine blue Flame, and is rendered colourless and pellucid; but when thus divested of its Colour, it has very much less Beauty than any of the other colour'd Gems treated in the same manner, and is indeed little superior to common Crystal. As to its Virtues, its Colour being the same with that of Sea-Water, has led fanciful People to the advising it to be worn to prevent Sea-Sickness: It is said to be an Astringent, but Crystal in all Probability possesses the same Virtues with it in this Respect. Its Colour is owing to an Admixture of cupreous and ferrugineous Particles, but they are in too small Quantity to have any Effect as Medicines.

CHAPTER III.

TOPAZIUS,

The Topaz.

THE *Topaz* of the Shops is the same Stone which our Jewellers know by this Name, but very different from what the Ancients knew under the same Name: They call'd this Stone, from its golden Colour, the *Chrysolite* or Gold-Stone. We have inverted the Names, and as we call their *Chrysolite Topaz*, we also call the Stone they knew under the Name of the *Topaz*, the *Chrysolite*.

The *Topaz* of our Times, when perfect and free from Blemishes (we may add when genuine, for nineteen in twenty of the Stones we meet with among the Jewellers under this Name are false ones) is a very beautiful and valuable Gem, it is however

however very rare in this State. It is of the Number of those Gems which are found only in the round or pebble Form, there never having been yet seen a true and genuine *Topaz* of a columnar Figure, though the far greater Part of what our Jewellers call such are in that Form. The greatest Part of the true *Topazes* are no larger than Grains of a coarse Sand, among these there are however some met with of the Size of a Pea, and some much larger, though those are very rare. It is of a roundish or oblong Figure in its native or rough State, and usually is flatted on one side, and is generally of a bright and naturally polish'd Surface, tolerably transparent. They are ever of a fine yellow Colour, but they have this like the other Gems, in several different Degrees; the finest of all are of a true and perfect gold Colour, but there are some much deeper, and others extremely pale, so as to appear scarce ting'd. The oriental *Topaz* is equal to the Ruby in Hardness, and is second only to the Diamond in Lustre. The *Topazes* of the other Parts of the World fall off greatly from this Hardness, but the poorest of the genuine ones are considerably harder than Crystal. The *Topaz* loses its Colour entirely on being thrown into a Charcoal Fire, and when taken out is a very fine colourless Stone, undistinguishable from that known by the Name of the white *Sapphire*: upon the whole it appears, that the Oriental coloured Gems are all much the same in their Matter, differing scarce at all except in Colour, and that, when they are either found naturally colourless, or rendered so by Art, it is not easy to distinguish one of them from the other.

The finest *Topazes* in the World are found in the *East-Indies*, but they are very rare there of any Size: The Great Mogul however at this Time possesses one, which is said to weigh a hundred and fifty seven Carrats, and to be worth more than twenty thousand Pounds. The *Topazes* of *Peru* come next after these in Beauty and in Value; the *European* are principally found in *Silesia* and *Bohemia*, and are generally full of Cracks and Flaws, and of a brownish Yellow.

Beside all these Degrees of Value in the genuine *Topazes*, our Jewellers keep what they call a Kind of them, inferior greatly to them; all these are common hexangular Crystals, colour'd to a paler or deeper Yellow in Mines: These they cut into Stones for Rings, and sell under the Name of *Topazes*, and most of the Stones that we see under that Name are such.

The Ancients have said much of the Virtues of the *Topaz*: It is said to be a high Cordial, and a Sudorifick; and to have been given also in Hæmorrhages with great Success. Whatever Virtues however it may possess, we are not to expect to find them in the Stones our Druggists now keep under the Name of *Topazes*, these being no other than Fragments of a yellowish plated Spar, common in Lead Mines, and impregnated more or less with that Metal. The *Topaz* itself indeed seems to owe its Colour to Lead, but the Quantity it contains of it is so very inconsiderable, that it can be of no Effect in the Body, but may very well be supposed to leave it in the State of Crystal, which seems as much as we are to imagine really of any of the Gems; but this Spar sold in its Place, not only discovers that it holds a great deal of Lead by its Weight, but I have separated Lead from it, in no less Quantity than one fifth of its Weight.

CHAPTER IV.

AMETHYSTUS,
The Amethyst.

THE *Amethyst* of our Times is the same Gem that the Ancients knew under that Name. It is in its finest and most perfect State a very beautiful and valuable Stone, scarce inferior to any thing but the Diamond, either in Lustre or Price; there are however very few of this Standard of Hardness and Lustre. It is found in various Forms, like many of the other Gems, sometimes in a round or pebble like Shape, but more frequently in a Crystal Form, or angular one.

The pebble *Amethysts* are sometimes of very irregular Shapes, depress'd in some Places and protuberant in others, and thence are much less valuable, as a large one will sometimes only furnish Matter of a due Thickness for a Stone of but a moderate Size. It is at other Times found pretty regularly rounded, sometimes oblong, and sometimes of the Shape of a Pear; in either of these Shapes it is much more valuable than in the less regular ones, because less is lost from it in the cutting. This pebble Form however is not the most common Appearance of the native *Amethyst*, it is most frequently found of an angular Figure, and not loose in the Earth, or in the Beds of Rivers, as the pebble *Amethysts* are, but adhering to the Sides of Fissures in Stone, or coating over the Hollows of large roundish *Nodules* of the *Geodes* Kind: In these it is not however uniform as to its Figure, when found adhering to the Sides of the perpendicular Fissures; it is usually in Form of an hexangular Column, considerably long and slender, and terminated by a short hexangular Pyramid, and much resembles the common Sprig Crystal, except in Colour, Hardness and Lustre. When it is found within the Hollows of the roundish Stones, it most frequently assumes the Form of a very short quadrilateral Column, terminated by a tolerably long quadrilateral Pyramid, though it is sometimes found consisting only of this Pyramid affix'd to no Column at all, and sometimes even in these *Nodules* of the same hexangular Figure with those in the Fissures of the Strata; though in those Fissures it never is found of the quadrilateral Figure, in which it is usually found in the *Nodules*. In which ever of these Forms the *Amethyst* is found, it is ever of a fine and elegant purple Colour, which seems composed of a happy Mixture of a deep Blue and a fine full Red, in the finest Specimens so happily joined as to form the truest and most delicate Purple we have any Idea of; but in others as the Blue or the red prevail, the Colour runs either into the Rose Colour with very little blue in it, or into the Violet Colour with but a small Portion of the red. It has these several Shades of Colours also all in very different Degrees in the different Specimens, some of them being so deep as to be scarce pellucid, unless held up against the Light; and others so pale as scarce to seem ting'd. We have no peculiar Names for the different Shades of Colours of the *Amethyst*, but the Ancients distinguished those Stones in which the Blue was vastly prevalent, by the Name of *Hyacinths*, a Name not improperly given to such Specimens of this Gem, as approached to the purplish blue Colour of the Flower of that Name, but very absurdly bestow'd by

us upon a yellowish Gem, which they call'd the *Lyncurius*, as has already been observ'd in the Chapter of the *Hyacinth*.

The *Ametbyst* is sometimes found wholly colourless and pellucid as Crystal, and it may at any Time be render'd so by Art, the Heat of a moderate Charcoal Fire very readily discharging all its Colour; in this State it is much harder and more brilliant than Crystal, and is indeed the same with what is usually call'd the white Sapphire, that being the Name given by our Jewellers to all the naturally colour'd Gems, when either found accidentally colourless, or render'd so by Art.

Ametbysts are found in the *East-Indies*, in *America*, and in many Parts of *Europe*: Some of the *Oriental Ametbysts*, both of the pebble and columnar Kind, are equal to the Ruby in Hardness and Lustre; these are of equal Value with that Gem, but they are very rare; the far greater Part found even in *Pegu* are but little harder than common Crystal, and all the *American* and *European* ones being as soft as these, are of but little Value. The genuine *Ametbyst* in its columnar Form is very frequent in many Parts of *Europe*, but we much more frequently meet with common Crystal, ting'd to a purple Colour by metalline Particles; and Sprigs of this are what our Jewellers receive in the greatest abundance and cut as *Ametbysts*; whence the Lapidaries have been taught to tell us, that the *Ametbyst*, judging of it in general from these false Specimens, is no harder than Crystal; and hence it is in a great Measure, that the Stone in general is so much out of Repute at present. *Bohemia*, *Silesia*, and many Parts of *Germany* abound with purple Crystals, and produce also some *Ametbysts*, that is columnar, pellucid, purple Bodies, much harder and of more Lustre than any Crystal in the World. Beside these several Forms of the *Ametbyst*, and the colour'd Crystals which emulate its Appearance, we are not to omit the Description of what our Druggists sell us under this Name: This is usually a shapeless Spar, or debas'd Crystal tinged in Part with Purple, and generally in Part also with Green, but with nothing of either the Lustre or Figure of the real Gem in any of its States. These bastard *Ametbysts* (though even to call them so is to honour them with too good a Name) are found every where almost in the *German* Mines, in Masses of two, three, or four Pound Weight, partly green, partly purple, and partly colourless; they break them to Pieces, and separating those Fragments which have most Colour, send them to the Druggists under the Name of *Ametbysts*.

We find the *Ametbyst* recorded with great Honour for its Virtue, in preventing Drunkenness; we are told that it had this Effect, whether taken in Powder or only wore upon the Finger; and indeed it is highly probable, that it will operate as well one way as the other to this End. We are also told of its Virtues as an Astringent, and a Remedy against Hæmorrhages. It probably possesses the Virtues of Crystal, but it would not be prudent to use the Things call'd *Ametbysts* by the modern Druggists, either in the Place of that Gem or of Crystals, as they seem impregnated with various other Matters, and very frequently contain Lead.

The *Ametbyst* owes its Colour to Iron: It is not only possible to separate Iron from it, but also to give the true Amethystine Tinge to artificial Pastes and Glasses with that Metal.

CHAPTER V.

OPALUS,

The Opal.

THIS is a very elegant and a very singular Kind of Stone, it hardly comes within the Rank of what we call the pellucid Gems, being much more opaque and much less hard than any of them: It has however been at all Times received among them, and placed tolerably high in Rank. The *Romans* made it the fourth in Value, and at present, though as little valued as it ever was in the World, the good and perfect Specimens of it will sell for a considerable Price.

It is never found in a columnar or angular Form, but always in what is call'd the pebble Shape: It is of various Sizes, from that of the Head of a Pin up to the bigness of a Walnut; it sometimes exceeds even this, but that rarely, and in general the larger Specimens are seldom found quite perfect, so that the Jewellers often are obliged to cut them. It is sometimes met with as round as a Marble, but its more frequent Form is an oblong or oval, rounded on one Side and flat on the other: Sometimes it has been found of the Shape of a Bean, with the Dent on one Side, sometimes in the pyriform, or pearlike Figure; and sometimes in small flat Pieces, which are the least valuable of all. It is naturally bright, smooth and glossy, and shews all its Beauty without the help of the Lapidary. Opals are for this Reason frequently worn native as Rubies are. In Colour it very much resembles the finest Mother of Pearl, its Basis seeming a blueish or greyish White, but with a Property of reflecting all the Colours of the Rainbow, as turn'd differently to the Light: It has this Quality however in a much superior Degree to Mother of Pearl, and is brighter, and greatly more transparent, so that one sees very deep into it. The Colours it throws out are almost equal to those of all the several pellucid Gems that possess them singly: The Green and the Blue are particularly beautiful in it, but the fiery Red is the finest of all: This seems to be deep in the Stone, and to throw itself out from its Bottom, as it is turn'd properly to the Light with a peculiar Force: The Red seems the most properly of all the adventitious Colours to belong to the Nature of the Stone, for we sometimes meet with blackish Opals, which shew no other Colour in any Light, only the Red, but that in its full Glory; even this, however, is not properly inherent in the Opal, for Fragments of this Stone broke small, shew neither this nor any other of the Colours, but are of a pale simple Grey.

The Opal is found in the *East-Indies*, in *Ægypt*, *Persia*, and *Tartary*, and in some Parts of *Europe*, particularly in *Bohemia*. The *Oriental* in this, as in all the other Gems, are much the finer; they are found on the Sides of Mountains, and in the Beds of Rivers, but always lying loose among Earth or Sand: The *Bohemian* are generally bedded in a hard Stone of the Jasper Kind, of a greenish or greyish Colour. The *Oriental* are harder as well as brighter than the others, but

but even they are difficultly polished to any Degree of Nicety ; so that unless they are accidentally foul or scratched, it is often better to wear them with their native Polish than any way else.

The Virtues, both medical and magical, that have been attributed to the Opal by the old Authors, are almost innumerable, but we live in an incredulous Age, in which very happily nothing of all that is said of it is believed.

CHAPTER VI.

ASTERIA,

The Asteria of the Ancients, call'd by our Jewellers the Cats Eye.

THIS is a Gem which more than any other approaches to the Nature of the Opal, but which wants much of its Beauty. It is very determinate in its Form, being never found in the angular or columnar Shape that most of the pellucid Gems sometimes are, nor indeed in what we properly call the pebble Form. It is naturally of a Semi-circular Figure, flat at the Bottom and of the Figure of the half, or a smaller Segment of a Sphere on the other Side, in the manner of the Opal. It is naturally smooth and glossy as if wrought by Art, and is of a pale brown Colour, in which it has an included White which plays about in it, as held differently to the Light, in the manner of the Fire Colour of the Opal, and seems like that Colour in that Gem, bedded deep in the Stone, but it wants all the other fine Tinges that the Opal throws out. The various Specimens of this Gem have this included White in different Degrees, in some where it bears but a small Proportion to the Brown it is seen in Form of a lucid Speck moving about to different Parts of the Stone as it is differently turn'd to the Light: In this State the Speck of White resembles a Star, and it was from this that the Ancients call'd it *Asteria*. When there is more of the White in it one half of the Stone usually appears White, while the other is Brown; the white and the brown Halves shift their Places, as the Stone is variously turn'd to the Light, and there often seems a sort of white Line to divide them. It is sometimes ting'd accidentally with a greenish, blueish, or yellowish Colour, but it is the worse for any thing of this Kind, never shewing the included Light so well as when of its native pale Brown.

It is found in the Island of *Borneo*, and in some other Parts of the *East-Indies*, as also in *New Spain*, and in some Parts of *Europe*, where it is found bedded in the same Stone with the Opals, the very same Mass not unfrequently containing both. It is said to have some Virtues as an Astringent, but the present Practice wholly disregards them.

CHAPTER VII.

ADAMAS,

The Diamond.

THE Diamond, though a Stone naturally colourless, is eminently distinguished from all others of the colourless Kind by its Splendour and the

Brightness and Lustre of its Reflections. It is like the generality of the other pellucid Gems, found sometimes in an angular and sometimes in a pebble like Form. In its angular State however it does not, as the rest do, resemble the common Sprig Crystal, but the more perfect Bodies of that Class, the double pointed ones.

The true Figure of the Diamond in its angular, that is its most perfect Form, is that of an inequilateral Octahædron, composed of two quadrilateral Pyramids affixed Base to Base, and consequently with their Points turn'd the two opposite Ways: Diamonds of this Form are what the Jewellers call Six pointed Stones; but beside this there are two other less perfect angular Figures of this Gem, the one a columnar one of six Sides, the other an oblong quadrilateral Column with two truncated Ends; these are the only tolerably regular angular Forms of the Diamond; but beside these it has an almost infinite Variety of others, which are corner'd and pointed, but which properly belong to it in its pebble Form. In this State it is sometimes roundish, sometimes oblong, and sometimes flat, and in some Specimens perfectly smooth, in others full of Inequalities on the Surface.

In which ever of these Forms the Diamond is found, it is to all Intents and Purposes the same Stone, and when polished has the same Qualities in Proportion to its Perfection and Purity. The Diamond is naturally colourless as the purest Water, but it is like all other transparent Fossils, liable to be ting'd by metalline Particles, and is sometimes found with a Cast of Red, sometimes of Blue, sometimes of Green, and more frequently than any of these of Yellow. The small Diamonds are vastly the more plentiful, the others are found more and more rarely as they encrease in Size. The largest ever certainly known of, is now in the Possession of the Great Mogul, its Weight is two hundred and seventy nine Carrats, and its Value is computed at between seven and eight hundred thousand Pounds.

We are not to suppose the Diamond of different Species, because we meet with it shot into several Forms: We well know that common Salt will from the same Solution, according to the various Accidents of the Evaporation, form itself into some solid and shapeless Masses, some perfectly irregular though angular ones, some regular Cubes, and some regular Pyramids: We know that the Substance is the same in all these, however the Form may have differed; and as Diamonds have originally, without all Question, concreted out of a Fluid, it is not at all wonderful, that among the various Accidents such a Concretion must have been attended with in the Bowels of the Earth, that some Parts of the same Matter should have shot into quadrangular Pyramids, while other Parts of it form themselves into hexangular, pyramidal, or pebble like Concretions.

The Diamond in its native State is sometimes bright as if polished by Art, but more frequently its Surface is observed by Foulnesses of various Kinds; and sometimes it is as the Diamond Cutters call it veiny, that is, it has certain Points of an inconceivable Hardness on its Surface.

The Diamond bears the Force of the strongest Fire unhurt, and suffers no Change by it if ever so long continued, provided it is not removed into the cool Air too suddenly; but if it be, it sometimes will crack. Exposed to the solar

solar Rays collected in the Focus of a large Burning-Glass. It after some Time splits into a multitude of very thin Flakes like those of Talk, and these soon after run into a Kind of Glass, which has nothing of the Hardness or Lustre of the Diamond.

The only Places where Diamonds have yet been found are the *East-Indies*, and the *Brazils*, the last of these Places is but newly discovered to have any, and there has been an Opinion, that a great Plenty of these Stones would be the Consequence of the Discovery ; but it has not hitherto appear'd that they are produced in so great abundance there.

There have not been wanting People who have attributed to the Diamond great Virtues as a Cordial, but we are apt to believe no body ever did, or will try, whether this has been said with any sort of Foundation.



FOSSILE

F O S S I L E B O D I E S

Used in M E D I C I N E.

C L A S S the S E V E N T H.

Extraneous Fossils,

Bodies which have originally belong'd to the animal Kingdom, but have been petrify'd, or otherwise alter'd by long lying in the Earth.

Of these there are Seven.

- | | | |
|------------------------|---------------------|-------------------|
| 1. The LAPIS JUDAICUS. | 4. The GLOSSOPETRA. | 6. The ENTROCHUS. |
| 2. The BELEMNITES. | 5. The OSTRACITES. | 7. The ASTERIA. |
| 3. The BUFONITES. | | |

C H A P T E R I.

LAPIS JUDAICUS,
The Jews Stone.

THIS singular Fossil has been supposed by some to be of the Number of the native Bodies of this Class, and to owe its Form to the same Power of Crystallization with the Crystals, some of the *Pyritæ* and other regularly figured Bodies of the fossile World; others, who have been unwilling to suppose this, have acknowledged it of the extraneous Kind, and as they could find nothing in the animal World that resembled it in Shape, have refer'd it to the vegetable, and from its Likeness in Size and Shape to an Olive, have call'd it the petrify'd Olive: one of these Opinions is erroneous however as well as the other, tho' not quite so far removed from the Truth. It is indeed an extraneous Fossil referable to the animal Kingdom, and is no other than the Spine of a large *Echinus Marinus* of a peculiar Species, the Fragments or Remains of the Shell of which Fish we also sometimes find among these Stones with the *Papillæ* yet remaining, to which these *Lapides Judaici* grew, and which still perfectly fit that Part of the Spine which is call'd the Stem or the Stalk, by those who suppose them petrify'd Olives.

Several different Spines of *Echini* which vary extremely in Shape and Size, have

have at times been described by Authors under the Name of the *Lapis Judaicus*, and hence the Difference, as to the Length and Thickness of the Stone, which we find in their Descriptions; but the Species now universally received under this Name is the petrify'd clavated Spine of a very large *Echinus Ovarius* or Egg-shaped Sea Urchin. The Authors who have made Distinctions of the *Lapides Judaici* into Male and Female, have given the Name of the Male *Judaicus* to some of the larger and longer Species, and that of the Female to this short thick Kind.

The Female *Lapis Judaicus* of these Authors, or common *Judaicus* of the Shops, is a Fossil of a perfectly regular and elegant Figure; it is usually about three Quarters of an Inch in Length, and half an Inch in Diameter, tho' there are many smaller, and some few a little larger; it never however much exceeds this Standard: its Figure is oblong and rounded, swelling in the middle, and gradually tapering to each End, at the one of which it terminates in a Point, and at the other has a Sort of Pedicle affix'd to it, by which in its recent State it has been affix'd to the Shell, and which those who are for its being a petrify'd Olive call its Stalk. It is ridg'd and furrow'd alternately in a longitudinal Direction, and that in a very elegant Manner, the Ridges all running at regular and equal Distances; they are about fifty in Number and are not plain, but punctated or more properly granulated at the top. There are some petrify'd Spines of this Shape in which the Ridges are smooth, and others in which the whole Body of the Stone is smooth, and there are no Ridges at all, but these are not properly of the officinal Kind. The Colour of the *Lapis Judaicus* is a pale and dusky grey, usually with a faint Cast of a dusky Redishness in it; but this additional Tinge is only external, the whole being merely of a whitish grey within. It is solid and considerably heavy and hard to break; when it has received a Blow sufficient to this Purpose, it does not break irregularly as a common Stone would do, but always divides in an oblique Manner, and shews two very smooth and glossy Surfaces: this has appear'd a great Singularity to some Persons not much conversant in Fossils, but People who have studied those Bodies, know that this is a very common Incident in Bodies, in which pure Spar has been the petrifying Matter, and that all the shelly Part of the common petrify'd *Echini* of our Chalk Pits breaks in the very same Manner.

The *French* Druggists have told us that this Stone, as they call it, is of the Nature of the common Flint, but it is very different from that Body; it is indeed a Petrification solely composed of Spar, and that tolerably pure. It is perfectly soluble in Acids, and may like all other Spars be recrystallized again by a careful Process from that Solution. There are a vast Variety of other Spines of *Echini* longer, slenderer, and in other Particulars differing from these, all of which have at times been call'd *Lapides Judaici*, and any of which may indeed be properly enough used as such, as they are all composed of the same Matter, and must all have the same Virtues. Authors have call'd this Fossil the *Lapis Syriacus* and *Phœnicites*, from the Places where it is principally found, and *Euroes*, from its occasioning a plentiful Discharge of the Urine; others *Ticolithos*, from its supposed Power of dissolving the Stone. It is found in *Syria* and all the Country thereabout in great Abundance, sometimes lodged in a loose sandy Stone, but more frequently in a marly and very hard Earth, of the Nature

ture of that which we find in many Parts of *England*, containing great Quantities of marine Bodies.

It is said to be a great Diuretic and Lithontriptic ; that it possesses the former of these Virtues is very certain, but it is not equally sure that it has any Thing of the other. It acts in this Case as mere Spar, all the Spar of the World, whether in its solid Form or in a natural State of Solution in Water being diuretic ; witness the *Ostracites* and the several other Forms of Spar, and the Waters of such Springs as encrust over Mosses, and Things thrown into them with a stony Coat ; all which are diuretic, though their Effect in crusting over every Thing that comes in their Way, might make them dreaded by People subject to the Stone. The Method of giving the *Lapis Judaicus* is ground to an impalpable Powder. The Dose is from a Scruple to a Dram. *Charas* has given a Process for making a Salt of it by Means of Sulphur, distilled Vinegar, and some other Menstruums, which he greatly recommends as a Lithontriptic ; but it never yet got into Use.

CHAPTER II.

LAPIS BELEMNITES, *The Belemnite or Thunder Stone.*

THE Belemnites is of the Number of those extraneous Fossils which we have not yet been able to reduce to their kindred Animals ; we only know that it is a Petrification of an animal Body, or Part of an animal Body ; but till we are much better acquainted with the Creatures which inhabit the Depths of the Sea, we are not to expect to find the Mould in which every figured Fossil in the World has been cast.

The Belemnites is an oblong and slender Body, somewhat pellucid, and of a brownish or yellowish Colour. It has several Varieties in Shape, which make so many Species of it among the Naturalists ; but all agree in the main Characters, and all are indifferently received as Belemnites in the Shops.

The Belemnites are all composed of Multitudes of thin Coats or Crusts encircling one another, and are all of them of a transversely striated Texture ; they have always a Hollow or Cavity of a Conic Form, wide at the Mouth, and tapering to a Point at the Bottom, placed at their larger End ; but this is usually not exactly in the Center, but on one Side. In some indeed it grows so wide at the very Extremity as to take in the whole Body of the Belemnite, and leave only a thin Crust for its Circumference. This Cavity is frequently found empty, sometimes it is filled up with earthy or stony Matter, and sometimes there is lodged in it a concamerated Shell of a peculiar Kind, which so exactly fits and fills it every Way, that it is hard to doubt of its being the original Inhabitant ; though we know very well that Petrifications of the same concamerated Shell-Fish are found in Stone and Earth where there are no Belemnites. This is of the Nature of those Fossils called *Orthoceratitæ*, or strait *Nautili*, all which are, though common enough in their fossile State, as wholly unknown to us in their recent one as the Belemnite itself. The Inside of the Cavity in many of the Belemnites in which it is found empty, is regularly marked with alternate Ridges and Furrows all the Way round, such

such as would exactly correspond to the Surface of the concamerated Shell found in the others, and plainly indicating that such had once also been there.

The Belemnites have in general a single Crack or Slit running down the whole Length of the Body, or nearly so, in Form of a strait Line. Some we find however that have no Mark of any Fissure of this Kind, and on the other Hand, some that have two or three of them instead of one; but the additional ones only begin at the *Apex* or End, and never run any great Way up.

The usual Form of the Belemnites is that of a long and slender Cone, tapering by Degrees from a not very large Base to an obtuse Point, and the general Size is about the Length and Thickness of a Finger, though there are vast Numbers found much smaller, and some considerably larger. But beside these conic ones, there are some of a regularly cylindric Form, and some others which are thickest near one of the Ends, and grow gradually thinner and smaller as they approach to both. Some are found of all the intermediate Figures between the cylindric and conic, and some are almost orbicular; these last are always very short and small: Some of them taper off to a Point very gradually, and others very abruptly, and some are, instead of being rounded, flatted on one Side, and sometimes on both; and we also sometimes find them crushed and cracked by Accidents as the other Petrifications of Animals frequently are. We find of them as far as to eight Inches in Length, and they sometimes vary in Colour from their usual yellowish brown, and are found of a blackish or blueish grey, and sometimes of a Chestnut Colour, sometimes of a darker or paler brown with no Admixture of yellow in it.

The Belemnites are found in almost all Parts of the World, they are extremely common in *Germany*; we find them also in sufficient Plenty in *England*, and *France* and *Italy* abound with them. They are sometimes brought to us from *Syria* among the *Lapides Judaici*, and very frequently among the coarser Stones from the *East Indies*. Authors have called them, beside their common Name, by those of *Dactyli Idæi*, and *Lapides Lyncis* or *Lyncurii*, but this last Name has been an Occasion of Error, and has occasioned the Belemnite to be confounded with the Hyacinth, which Gem the Ancients called by that Name.

The Belemnites is said to have great Virtues as a Diuretic, which it may very well have on the same Principle with the *Lapis Judaicus*, its Matter being Spar. The *Germans* in whose Shops, it is frequent, say also, that it is a Remedy for the Nightmare.

CHAPTER III.

BUFONITES, *The Toad Stone.*

THIS is a Fossil that has been received not only among the List of native Stones by the Generality of Authors, but even has held a Place among the Gems, and is still worn in Rings by some People. It is however as much an extraneous Fossil, as any animal Remain of that Kind. There has been a strong Opinion in the World, that it was found in the Head of an old Toad, and that this Animal voided it at the Mouth, on being put on a red Cloth.

Cloth. We have not wanted Authors of great Gravity who have affirmed this, but the *Bufonites* is in Reality no other than the petrified Tooth of the *Lupus Piscis*, or Wolf Fish. The *Dentes Molares* of this peculiar Fish are all obtuse and rounded, but they are not all of the same Form or Size; they vary in Shape and Dimensions in the several Parts of the Jaw, and partly to this, partly to some other Fish having some of its Teeth of the same Kind, it is that we owe the Variety we see among the *Bufonitæ* which we meet with.

The most usual Form of the *Bufonites* is semi-orbicular, rising up in a round Prominence on one Side, and hollowed more or less deeply on the other. This Kind is sometimes so much hollowed as, when turned Bottom upwards, to resemble an Acorn Cup, and its Cavity is sometimes empty, and sometimes filled with a stony or earthy Matter; others of them are of an oblong Figure, but still rounded at the Top and hollowed underneath, in the same Manner as the former. Of these some are of an equal Diameter all the Way, some swell out in the Middle, and some at one End; among the round ones, some are found very depressed, and others so elevated in the middle as to emulate a conic Figure; all the Kinds are in some Specimens found more, in some less hollowed, and in some not at all. We at Times meet with some very long and slender, and some very round ones, but these are rare. They have frequently an external Circle of a different Colour from the rest, which adds greatly to their Beauty; and this is often finely striated. They are always found naturally polished, except some Accident have injured them, and what we see of them in Rings, are generally set as they were found in the Earth without any additional Polish: They are as various in Size as in Shape, many of them are hardly larger than a Pin's Head; and some on the other Hand are found of more than an Inch in Diameter. The more usual Size however is from that of a Pea to the Breadth of a Six-pence: We hear of some very large ones of the oblong Kind; but they are described as being very flat, and therefore they are probably not *Bufonitæ*, or Teeth of the *Lupus*, but what Naturalists call *Silicuastra*, or more properly *Ichthyperia*, that is Parts of the bony Palates of certain Fish.

The general Colour of the *Bufonites* is a deep dusky brown, but it varies greatly in this Respect in the several Specimens, some of which are found quite black, others of an extremely pale simple brown, others of a pale Chestnut Colour, some of a Liver Colour, some black, some grey, and some whitish.

They are usually of one uniform Colour, but some are found mottled and variegated, the yellowish ones with black, and the brown ones with a pale greyish Colour. Some few are found with a Spot in the Center, surrounded with a number of concentric Circles of various Colours. These are the most beautiful of all.

The *Bufonitæ* are usually found immersed in Beds of Stone, and so little Doubt is there of what they have originally been, that Part of the Jaw of the Fish has been sometimes found with them, with some of the Teeth petrified in it.

The *Bufonites* is said to be cordial and astringent: A thousand other fanciful Virtues are ascribed also to it, but the present Practice has rejected it.

CHAPTER IV.

GLOSSOPETRA.

THIS is a Body of the Number of the extraneous Fossils, which in general is less altered than most of them are, and always speaks its Origin in a very evident Manner; being no other than a Tooth of the common Shark, or some other Fish of that Kind, usually very little altered by lying in the Earth: Yet it has been its Fortune to be much misunderstood; some having taken it for a peculiar Species of Fossil of the native Kind, and argued for its having its regular Form from the same Principle as Crystal; and others allowing it to be of the extraneous Kind, but referring it for its Origin, to a Body wholly incapable of Petrification; the Tongue of some Animal, particularly of the Serpent Kind. It is probable that the People who gave the Name *Glossopetræ* to these Bodies, and made this Guess at their Origin, had seen only some of the small and slender ones, which do in some Degree resemble tongues, though even these, the least those of Serpents of any Animals in the World.

The greater Number of *Glossopetræ*, if compared with the Teeth in the Mouths of recent Sharks, will be found perfectly like them in all Respects; but there are smaller and larger than these, which seem to have belonged to some different Species of that Fish.

The *Glossopetræ* are of a Shape approaching to triangular, sometimes more sometimes less regularly so; some of them are strait, others crooked, and some are simply triangular, others are tricuspidate or three pointed; the larger Tooth having as it were two smaller ones, one on each Side its Base. Some of them are long and slender, others broad and short: Some of them have plain Edges, others are serrated very sharply; some scarcely visibly, others much deeper: In Colour there are some yellowish, others blackish, some brown, and some almost white. In Size also they are very various, some them are less than a Third of an Inch long, and some more than five Inches. Their usual Size however is about three Quarters of an Inch in Length, and half an Inch or a little more in Breadth. They sometimes seem considerably altered, but more usually they have the natural Enamel yet on them; and some of them differ very little from those in the Mouths of the living Fish. It is to be observed that some of the larger ones, which seem very little altered without, when broken, are found to be almost totally petrified; and others are even mere Stone within, having only the outer Coat resembling what they once were.

Glossopetræ are found in great Abundance in the Strata of blue Clay in many Parts of *England*, but no where with us so plentifully as in the Cliffs of the Island of *Sheppey*. They are also found in *Germany*, *France*, and *Italy*; the greatest Abundance of them however any where known of, is in the Island of *Malta*, where the People who gather them, sell them by the Quart to Strangers who come there.

As to their medicinal Virtues, Fancy seems to have had the greatest Share in attributing them. Authors tell us they are very powerful Alexipharmics;

and that they are the 'greatest of all Remedies against the Bites of venomous Animals. The Women in some Places hang them about the Necks of their Children to promote Dentition, as we do Coral, and they seem at least as well calculated for that Purpose.

CHAPTER V.

OSTRACITES,
The Ostracite.

THE Term *Ostracites* has been used by Authors to express the common Oyster in its fossil State, under whatever Circumstances it has been petrified ; but as the Virtues ascribed to it in Medicine seem to depend on its being either sated with Spar, or retaining somewhat of its original testaceous Nature ; at least as they are not to be expected in such Petrifications of this Shell as are absolutely of the flinty or stony Kind, it will be proper to reject all those out of Practice. The Oyster is not only of several distinct Species in its recent State, but every one of those Species is liable to a great many accidental Varieties, there being scarce any known Shell in which Nature sports so much as to shape, as the Oyster Kind. Every one of these States of the Oyster, as well as each several Species may be buried in the Earth, and every one may be petrified there in a different Manner. Some of them are found hard, solid, and flinty, others softer and more flakey, these last are to be chosen for Use. They will always be known to be Oyster Shells by the Shape, and the greatest Test for proving them proper for medicinal Uses, is that they burn readily into Lime in the Fire.

The Virtues attributed to the *Ostracites* are the same with those of the *Belemnites*, *Lapis Judaicus*, and the rest of this Class ; but they stand better recommended than those of any other by a late Authority. Dr. *Lister* has recorded a Letter of his Friend Dr. *Cay*, in which that Physician declares the *Ostracites* to be, upon his own Knowledge, one of the greatest known Medicines in nephritic Cases. He never gave it, he says, to any that had a confirmed Stone, but to such only as were troubled with Gravel or with small Stones, that might be made to pass, and that almost all he had given it to were cured ; some voiding Gravel and Stones, others not ; that it was to be taken a considerable Time, in order to have the Effect ; but that no Body he ever cured by it, ever had a Return of the same Complaint.

This is a very remarkable Recommendation of a Medicine ; and Dr. *Lister* himself, who tried it on this, in a great Measure confirms what his Friend says of it. The Testimony of two such People may render it worth trying again. The Dose is from half a Dram to a Dram in white Wine. The *Ostracite* is to be reduced to fine Powder ; and Dr. *Cay*, to prevent a Sickness at the Stomach, that sometimes attended the taking of it, used to mix it with one third Part the Quantity of powdered Chamomile Flowers.

CHAPTER VI.

ENTROCHUS ET TROCHITES,
The Entrochus and Trochite.

THE *Entrochus* and *Trochites* differ no otherwise than as separated Parts or Congeries of the same Body. The single Joints are called *Trochitæ*, and the Columns composed of several of these arranged together in their natural Form, the *Entrochi*.

They seem to have been Parts of the Arms of that singular Species of the Sea-Star-Fish, called *Stella arborescens*, petrified. The *Entrochi* are cylindric Columns with prominent Rings all round them, placed at various Distances, and are made up of a Number of flat or thin round Joints pierced through in the Middle, usually with a round, though sometimes with an oval or oblong Hole; and which when separate and single, are the *Trochitæ*. This Cavity should run through the whole Body of the *Entrochus*, which is formed of a regular Arrangement of these, but we commonly find it filled up with earthy or stony Matter, much fouler or coarser than the Substance of the *Entrochus* itself; sometimes however it is empty, and the *Entrochus* is hollow throughout.

The usual Length of the *Entrochi* is about an Inch, and their Diameter about a Quarter of an Inch; but there is no Certainty as to this; some of them are found little thicker than Pins, and others of more than an Inch in Diameter, and four or five Inches in Length. They are generally of a blueish grey Colour, but sometime are brown, sometimes whitish, and sometimes reddish: They are always composed of the same Substance, which is a plated or tabulated Spar, perfectly like that which the *Lapis Judaicus* is composed of, and when broken, they in the same Manner always separate obliquely, not in the Direction of the Rings, and shew two very even glossy Surfaces, looking as if polished by Art. They are naturally cylindric Columns, but like all other Fossils of the extraneous Kind, they are liable to external Injuries in their Concretion, and are accordingly found sometimes crushed and flatted. Their central Cavity is sometimes round, sometimes oblong, and sometimes pentangular in the Manner of the *Asteria*; sometimes an Impression like that of one of the single Joints of that Stone is seen on each Side the *Trochites*, or at each End of the *Entrochus*, and the Body is then called an *Entrocho Asteria*. Sometimes the Columns are smooth and simple, but at others they have the Rudiments of other Branches or smaller Columns which have grown out from them, and the Stumps of which where they have been broken off appear. There are frequently found along with the *Entrochi*, certain Fragments of plated Bodies to which they have belonged, and sometimes the *Entrochi* are found affixed to them. These are generally of a convex Figure, and are called *Modioli*; they have evidently been Parts of the same Body to which the *Entrochus* has belonged; and it is as evident that the *Entrochi* are marine Bodies, since other marine Substances, as *Tubuli* and the like, are found affixed to them, and ever conforming themselves to their Shape; which is a convincing Proof that the *Entrochi* were existing in their present Shape, in those Seas, where the Shells affixed to them were afterwards formed.

The *Entrochi* are composed of Spar, and consequently they exhibit all the Characters of that Fossil; they very readily calcine in the Fire, and they make a great Effervescence with Acids, and are totally dissolved by them. They are of the Number of those Bodies that are tossed about by the Acid in Solution, and the single Joints in a flat bottom'd Vessel will keep in Motion till they are wholly dissolved, and have hence, like many other Bodies of the same alkaline Nature, been called creeping Stones.

The *Trochitæ* and *Entrochi* are found bedded in the Strata of blue Clay in many of the Northern Counties of England in great Abundance, and lie sometimes so near the Surface, that they are turned up in ploughing: They are also frequently immersed in Stone in vast Abundance. The *Derbyshire* Marble contains such an innumerable Multitude of them, that it seems principally made up of them. It is to these alone, that it owes its beautiful Variegations. It is not so easy to distinguish what they are in the polished Surfaces, or even the harder Part of the Marble when broken, unless by an experienced Eye; but the ragged Edges and Surfaces of the Blocks shew them very plainly.

They are esteemed very powerful Diuretics, and are given in the Places where they are common, in all nephritic Cases, and that often with great Success. The People take them in Powder as much as will lie on a Shilling for a Dose. There is no Doubt of their possessing all the Virtues of the *Lapis Judaicus*, since they are almost entirely the same in Substance and constituent Matter, however different in Form.

CHAPTER III.

ASTERIA; *The Star Stone.*

THE *Asteria* is an extraneous Fossil much resembling the *Entrochus* in many Particulars. Authors have sometimes confounded this Fossil by Name with a very different one, the *Astroites* or Star Stone; which is no Part of an animal Remain, but a coralloide Body lodged in Flint, and exhibiting the Figures of Stars at the Segments of its Branches, or the horizontal Section of its whole Body: We are to distinguish this as never intended by Authors who mention the Virtues of the *Asteria* in Medicine, tho' some Naturalists have called it by that Name.

The *Asteria* of the Shops is like the *Entrochus* sometimes found in Form of a Column, composed of several Joints, and sometimes of those Joints separate. Its general Appearance is that of a short and somewhat crooked angular Column. The general Size is that of an Inch in Length, and about the Thickness of a Goose Quill. It is easy to see that these Columns are composed each of a great Number of Joints which are angular, and give the Figure of a radiated Star usually of five Points, whence the general pentangular Figure of the Column, though sometimes of more, sometimes of fewer; in which Cases, the Column has more or fewer Angles in Proportion. In some the Angles are regularly placed, and equidistant from one another; in others they are very irregularly situated, and in some they are long, narrow, and sharp pointed, while in others they are obtuse and short; and in some of these

these so much so, that they scarce stand out at all beyond the Surface, but leave the Column with much the Appearance of an *Entrochus*

The Columns of the *Asteria* are usually of the same Thickness throughout their whole Length, but this is not the Case in all; for some of them swell out evidently in the Middle, and others near one of the Ends. Though the Generality of them have five Angles, there are some that have only four; and others that on the contrary have six: Though in these last it is more proper to say that one of the five natural Angles is bifid or split all the Way down, than to make one regularly more of the Number. The Furrows or longitudinal Hollows between these Angles of the Column are very various in the several Specimens, in some they are so deeply cut in, that a single Joint taken off would be of the Shape of the Rowel of a Spur, while in others the Furrows are scarce visible. One Side of the single Joints is usually finely striated along the Edges of the several Angles, the other smooth; and in the same Manner one End of the Columns also is usually thus striated, and the other plain; and sometimes one End of a Column is indented, and the other has only five *Striæ* running from a hollow Center to the *Sulci* between the Rays.

Though we have delivered an Inch in Length as the most frequent Size of these Columns, it is to be observed that they are found much larger and much smaller than this, from the Bigness of a small Pin up to two Inches in Length, which they very rarely have been known to exceed. They are usually of a pale greyish Colour, sometimes yellowish, and sometimes, though rarely, blueish. They are found in the Strata of Clay, sometimes of soft Stone; they have frequently the Shells of Sea Fishes of various Kinds found among them, and often adhering to them, and conforming themselves to their Shape; which is a Proof that the *Asteria* were existent in the Seas at the Time when those Shells began to grow; this alone is sufficient Proof of their being marine Bodies, and there is all the Reason in the World to think they have, like the *Entrochi*, been the Parts of some Species of Star Fish. We find them very frequently in *Yorkshire*, and some other of the *Northern* Counties. They are sometimes though rarely found adhering to Fragments of the Body of the Fish: These Fragments are called *Asteropodia*, and are like the *Asteriæ* themselves composed of a plated Spar. Sometimes also the *Asteriæ* have a Number of slender Appendages or the Rudiments of them, which seem to have grown from them, as the Branches do from the *Entrochi*; these are called by some the Wires of the *Asteriæ*, and composed of several short cylindric Joints with obliquely truncated Ends, and each hollowed to the Middle, where there stands a Tubercle. They stand in Circles round the *Asteriæ* at different Distances from one another. They are rarely however to be met with affixed to the Columns, their Rudiments only usually being left on them.

The *Asteria* calcines very easily in the Fire, and ferments with, and is perfectly dissolved by Acids: It is truly a sparry Matter, though influenced in its Form by the animal Mould it has fallen into the Way of, and it possesses all the Virtues of Spar.

It is given by the Country People to one another for the Gravel, a Dram or thereabout for a Dose, and that with good Effect; but it is not much known in the Shops.

Of W A T E R S

Used in M E D I C I N E.

BY Water taken in the general, we understand a pellucid Fluid, convertible into Ice by Cold; naturally pervading the Strata of the Earth, and flowing or stagnating on its Surface.

Pure Water would require a Definition very different from this, that of a limpid and colourless Liquor, without Smell or Taste, simple and volatile. But such a Definition would not include the Waters impregnated with metalline, stony, saline, and other fossile Particles, which make the more immediate Business of this Treatise.

The Waters used in Medicines may be arranged under two general Divisions.

1. The common Waters serving for the ordinary Purposes of Life.
2. The Waters impregnated with peculiar Mineral Substances.

The Differences of common Water arising from the Circumstances of Stagnation or Motion, or of its containing more or less of those stony Particles which it always contains in some Degree, are not so essential as to prevent the whole from being considered as of only one Kind.

The Waters impregnated with peculiar mineral Substances on the other hand differ essentially in Regard to the several impregnating Matters, and are properly arranged according to them into four Kinds.

1. WATERS IMPREGNATED WITH METALLINE PARTICLES.
2. WATERS IMPREGNATED WITH SALINE PARTICLES.
3. WATERS IMPREGNATED WITH SULPHUREOUS PARTICLES.
4. WATERS IMPREGNATED WITH TERRENE PARTICLES.

Of common Waters serving for the ordinary Purposes of Life.

AS the last Part of the *Materia Medica* for which we are beholden to the fossile World, Water is to be treated of. A Fluid of this Kind so well calculated for the dissolving and sustaining in a State of Solution many of the Subjects of the mineral Kingdom cannot but in its Passage through the Earth be more or less impregnated with many of the Bodies it washes in its Course. We accordingly meet with it in different Places impregnated in various Manners and Degrees with various Substances, some in greater, some in less Proportion, and some more, some less perceptible to our Senses. According to the Testimony of these imperfect Judges, we usually divide Water into two general Kinds, the simple and the medicinal.

Simple

Simple or pure Water, in a just Sense of the Word, there is not met with any where, heterogencous Matter and that in large Quantity, may be separated from such as appears the purest and most simple; but we include in a more vague manner, under the first of these Terms, all those Waters which have no Smell or Taste of any extraneous Matter, nor any particular Effect on the Body: And under the latter we include all those whose Smell, Taste, or other obvious Qualities denote their containing saline, metalline, or other mineral Particles in them, and whose Effects on the Body correspond with these Notices of their Contents.

The Waters of the first general Kind are used on all the common Occasions of Life, those of the other are taken as Medicines to restore decayed Health.

Simple Water, to use the received Phrase, is a pellucid, colourless Fluid, insipid to the Taste, and without Smell: We meet with this under different Circumstances, and accordingly divide it into Spring-Water, Well-Water, River-Water, Pond-Water, Rain-Water, and Snow-Water. The first is the Water furnished us from the Bowels of the Earth, and is continually fresh supply'd; the second is the same Water, only with the Difference of its remaining long in the same Place before we have it; the third is a Mixture of the first, and of fresh Vapours raised from the Sea and fresh Waters, and descending in Rains. The two first are almost invariably the same, the latter is subject to a thousand Changes, from the Matters accidentally wash'd into it by the Torrents occasioned by Rains, but it has the Advantage of being in continual Motion. The fourth is much the same in its Nature with this, but is rather more owing to Water that has been raised in Vapour and has fallen again in Rain; this has also the Disadvantage of standing and stagnating in its Place. The fifth has the Advantage of having been wholly raised in Vapour, and as it were distill'd by Nature: It is consequently purer than any of the others, but there are so many Kinds of Particles capable of rising with the Water in Vapour, that it never can be, nor ever is perfectly pure. The last has all the Advantages of this, and the additional one of having been frozen in its Passage, and thus having pass'd through an Operation very well calculated for the separating of Heterogeneities of many Kinds.

Upon the whole, the last, or Snow-Water bids fair for being the purest and fittest for our common Use of any that comes in our Way; yet even this I have found by Experiments to be not absolutely pure.

It has been objected to Snow-Water, that it occasions Swellings in the Throats of People who are oblig'd to drink it; but if we examine strictly into the Origin of this Charge against it, we shall be induc'd to acquit it of it. Errors are easily taken up and quickly propagated. It had been early observed, that the People who inhabited the *Alps* had swell'd Throats almost universally; one of the first People that made the Observation, attributed it to their drinking a Water different from that which other People drank, it being at least for a great Part of the Year little other than the melted Snow, with which the Tops of those Mountains are cover'd. Snow-Water thus got the Scandal of occasioning an ill Effect, which People did not see the Cause of, and it has retained its ill Name on the Occasion to this Day. Things are not however the more true for being generally received as Truths, nor does this seem to deserve at all the Credit that it has had for so many Ages. We see a fair Trial of the Effects of Snow-Water in our Sailors, who attend the *Greenland*

land Whale Fishery: These People for many Months have no other Drink than Snow-Water, or they eat Snow by Way of drinking, yet swell'd Throats are not found to be the Consequence. On the other hand, we have a Part of *England* in which swell'd Throats, among the Women at least, are as common if not as great as among the *Alpines*. The Women of many Parts of *Derbyshire* are almost universally subject to them, yet they do not drink Snow-Water any more than their Neighbours.

These are two simple Facts which one would wonder no body had enquired into before; but if by these it appears that Snow-Water may be drank without occasioning swell'd Throats, and that swell'd Throats may be a general Disorder in certain Places without the drinking of Snow-Water, it should seem very fair to conclude that it is not Snow-Water that occasions them in the *Alps*, though People have believed it very firmly for these two thousand Years; and when we have got rid of this vulgar Prejudice, we shall find nothing to countenance the Censure the World has so long passed upon what is doubtless the best and purest Water we are naturally acquainted with.

All Waters as they are more pure are more soft: This as the purest is the softest of all. Rain-Water comes next to this, but both by Experiments and Analysis is found to be inferior to it: After Rain-Water those Waters are the softest which are most form'd of this, excepting where alter'd for the worse by Stagnation or other Accidents. Spring-Water, though the clearest and most tempting of all to look at, is the least pure of all, and of all others the least fit for common Use; and consequently the other Waters we meet with, which are all composed of a Mixture of Spring and Rain-Water, are the better and fitter for all the common Purposes of Life, as they contain more of the Rain-Water and less of the other.

The Eye we see, by the Instance of the Pellucidity and seeming Purity of Spring-Water, is no adequate Judge on this Occasion. It will teach us indeed not to drink or use foul and dirty Water, which would carry Mud and a multitude of other Things we never ought or intend to swallow, into our Stomachs; but it leaves us in the Dark as to those Contents of Water, which in however great Quantity may be suspended imperceptibly in it; in this Case we are to judge by the Effects of the Water, and after having set aside all stagnating Water as such, for very obvious Reasons, we are to consider the Effects of the others in and out of the Body.

Such Water as sits light upon the Stomach is to be preferred to that which is heavier there: It should have no sensible Quality but that of mere Water; no Taste, no Smell, no other Operation but that of mere Water on the Body. Water which boils soonest, and soonest cools again, is to be prefer'd, and such as boils Garden Stuff the quickest, and mixes the most perfectly and readily with Soap.

The Water produced from melted Snow is superior to all other Kinds in these several Respects, and is doubtless the last of all Waters to be justly charged with the mischievous Effect ascribed to it by the People who suppose the swell'd Throats of the *Alpines* occasioned by it: What is the occasion of so odd an Effect, is not the Business of a Work of this Kind to enquire into, only it may be observed by the Bye, that the *Alps* are known to abound in many Places, and perhaps do so in many more, with the same sort of mineral and
fossile

fossile Substances, that are found in our County of *Derbyshire*; and that the Water the People who inhabit those Mountains drink, may be the occasion of the Disorder, though it is very evident that it does not produce it as a Solution of Snow.

The extraneous Matter generally and universally contained in all Waters in its natural State is Spar, a fossile Substance which though we are not able to dissolve in Water by any artificial Means, yet we have the strongest of all Proofs, that it is naturally dissolved and sustained in it, because we can at all Times separate it from it in a solid Form. This Spar is in itself a pellucid Fossil, but it is usually associated with more or less Earth, often with other Particles, the Earth gives it a Foulness and Opacity in its mixed State, which though not perceptible in the Water, never fails to be so in the solid Matter when separated from it.

This Spar is in some Measure separated from all Water by the common Means of Evaporation, and even in Cases in which the Operation is not carried to such a Height as to separate it by an absolute Evaporation to a Dryness, in a large Quantity at once, yet in Proportion to the Water evaporated, a Quantity of it is always precipitated to the Bottom and Sides of the Vessel, which though too small to be perceptible when only the Produce of a few of these Operations, yet by Degrees encreases in Vessels frequently used and not clean'd, and shews itself in a very evident manner.

This is the Origin of that stony Matter found concreted round the Sides of our Teakettles, the several Boilings of Water in which, add each their Precipitation to the former, and the Vessel never being clean'd from it, the Consequence of repeated Boilings for a long Time is a Crust of sparry Matter, of a Thickness proportioned to the length of Time it has been forming.

This Substance, when examin'd, will be found to be just what has already been mentioned as the Precipitation of all Water, a Spar more or less foul'd with Earth, according to the Clearness or Impurity of the Water; and containing also more or less of crystalline Particles. The Water of Rivers contains less of this Spar than that of Springs, and this is owing to its being compos'd in Part of Rain-Water, which though not absolutely free from it, contains much less than that of Springs; and accordingly those Rivers which are most dependant on Rain, carry least of this in their Water. The several different Springs, though they all carry greatly more of it than River or Pond-Water, yet differ greatly from one another in the Quantity they hold of it; and accordingly we see the Water of Rivers is a much longer Time in forming any considerable Crust in these Vessels than that of Springs, and that the Water of some Springs produces it much quicker than that of others.

To prove that this stony Matter thus separated from Water, really consists of a Mixture of the Substances we have said, requires but a very simple and easy Experiment. The Character of Fossils are now so happily established, that we know what of them are, and what are not soluble in Menstruums, and what are the several Differences of either Kind. A Piece of the Incrustation of a common Teakettle, which seems a mere coarse Stone, thrown into Aqua Fortis raises an Effervescence, and is soon in great Part dissolved; the Spar which made up almost the whole Body of it, is totally taken up by the Acid, and the Earth separated from it as indissoluble in this Menstruum, is collected in Form

of the Piece of the Matter thrown in: It becomes a thin light Case, seeming to have once held the now dissolved Matter, and yet retaining all its Lineaments and Indentings. This on Trial proves a mere Earth, and on repeating the Experiment several Times in the same Quantity of the Menstruum, there will be found at length another indissoluble Matter of a white Colour, in Form of a fine Powder at the Bottom of the Vessel: This on Trial proves to be pure Crystal, and after this the great Part of the Mass taken up by the Menstruum, may be either separated by a total Evaporation, or be recrystallized by a careful Process, and proves to be pure Spar. The Crystal seems indeed, as well as the Spar and Earth, to be sustained in almost all Water, but in most Kinds in an extremely small Quantity.

The Spar may be retained in great Abundance in a very clear Water, without any Precipitation by a natural Cause; but there are some Waters that are so overloaded with it, that they do not need boiling to let it loose, but precipitate it of themselves on Sticks, and Stones, or any thing that comes in their Way. A Matter wholly like the Incrustations in our Teakettles, is thus separated from the Water, and forms what the People of Science call sparry Incrustations on Wood, &c. but what the Vulgar, not distinguishing between Bodies only covered with a stony Matter, and those whose very Substances are penetrated by it, call petrify'd Moss, and petrify'd Sticks, &c. We have many of these incrusting, or as they are vulgarly call'd, petrifying Springs, in *England. Yorkshire, Northamptonshire*, and many of our other Counties abound with them, and Incrustations from them are frequent in the Cabinets of our Collectors of Fossils.

It is evident from this, that all the Water we use contains a stony Matter, wholly heterogeneous to it, and wholly improper to all the Uses we employ it in. It is singular that the very clearest Waters usually contain the most of it, so that the Eye by no means distinguishes its Presence by any Foulness of the Fluid; the Trials we have given as Tests however do not fail to distinguish it. All Water, the more it is loaded with it, the less it answers the Characters of true and pure Water: It is the harder, the longer in acquiring a boiling Heat, and the longer in cooling; and the less ready in boiling Vegetables, or in mixing uniformly with Soap. It is for this Reason that Spring-Water, or Well-Water, are less proper for Washing than River or Rain-Water, and there are some Springs so loaded with this hard Matter, that they will not lather with Soap at all.

It is observable, that it is not only in Water, otherwise pure, that we find this load of Spar; on the contrary all other Additions to Water seem to render it the more fit to retain this in large Quantities: All the mineral Waters contain it in a larger Proportion than common Spring-Water, and the Water of Salt-Springs in greatest Quantity of all. In the Evaporation of the last for the making of Salt, this Spar precipitates long before the Salt, and is driven in vast Quantities to the Corners of the Boilers, where the Liquor is most at rest, and where it subsides and fills, what the Workmen call the *Scratch Pans*, Vessels placed on purpose to receive it.

That it is not only in all Water, but is capable of being raised in Vapour with it is evident, from a thousand Observations in the mineral World: All the *Stalactites* and *Stalagmites*, the stony Icicles and Drop-Stones, found hanging from

from the Roofs, encrusting the Walls, and lying on the Floors of the Caverns in our own mining Counties, and in every other Part of the World, from those immense ones which fill the Grotto of *Antiparos*, to the smallest, that sometimes hang from the Roofs of our very Cellars, are all of Spar, and are all form'd of Water rais'd in Vapour with the Matter of which they are compos'd in it, and separated from that Vapour when again collected in Drops on the cold Roofs of those Caverns, and slowly and leisurely separating itself as those Drops hang.

It has been advanced by many, that these stony Icicles, &c. are not thus form'd of Vapours rais'd out of the lower Parts of the Earth, but of sparry Matter washed out of the Strata above by Rains, and penetrating through to the Roofs of those Caverns before it separated again. It would be difficult to account for the Process there laid down for many Reasons not necessary to be mentioned here, but the contrary one may be easily prov'd by the Crystallizations of *Marcasite*, frequently found on the very Surfaces of *Stalactites* as they hang down from the Roofs of these Caverns, though there is no room to imagine any such Substance was ever contained in the Stone above: The Truth is, this heavy Matter, as well as Spar, is by certain Processes to us unknown, but continually perform'd by Nature in the Bowels of the Earth, soluble in Water, and in this dissolved State is rais'd with it in Vapour, and that it deserts it again, just as the Spar does on its assuming the Form of Water again; but if this should appear too abstruse a Proof, a more obvious one may be furnished from those artificial Caverns, whose Roofs are loaded with *Stalactites*, though there is nothing above to yield the Matter of them. We have lately had a stronger Instance of this than perhaps ever was met with before, or ever will be again, in our own Neighbourhood, no farther off than *Windsor*. A Part of the great Terras at the Castle there is supported by a Brick Vault: Some Accident made it necessary to open this Vault, whose Roof of Brick and Mortar was covered with nothing but a Coat of Gravel; it will readily be granted that here was nothing above to furnish the Matter of the *Stalactites*, and yet the whole Roof was found covered with very elegant ones, hanging down in some Places to the length of three, four, or five Feet; and its Walls and Floor encrusted and covered with other Concretions of the same Matter, exactly as the natural Caverns of our own and other Countries are.

We know that Rain-Water itself is less loaded with Spar than any other Water, and is less ready to precipitate it: We are convinced that Brick and Gravel could not furnish such Matter, and it remains to conclude from such evident Demonstrations, that the Matter of these *Stalactites* was rais'd in Vapour from the lower Parts of the Earth with Water, and that it was stop'd by this Vault and separated by the Vapours, forming itself into Drops there in the very same manner as in all other Caverns. It is observable also, that these *Stalactites* were not of pure Spar, but of a Spar more than ordinarily loaded with a white Earth, and contained some Portion of Crystal with the rest.

Though we have thus established Snow-Water, as the most pure and simple that we can any way find furnished to us by Nature, it does not follow that it is the purest any Way to be obtained; Art can assist us farther. Experiments shew us, that though Spar is rarifiable in Vapour in the ordinary Course of things, yet it is possible to rarify Water into Vapour by so gentle a Heat as to
leave

leave it behind. This has been found by the experimental Chemists long since, and from a Process or two of this Kind, they have let loose their Imaginations to calculate the Consequences of others never made; and have hence given us the ideal Process of converting Water entirely into Earth, and established, as they pretend, on Facts, the Doctrine of the Mutability of those Elements one into the other, a Doctrine by no Means to be passed over in Silence, in an analytic Dissertation of this Kind, on the Subject.

The Character of the Authors by whom this System is delivered, has gained it a Sort of universal Credit, and the supposed Tedioufness and Difficulty of the Process, has perhaps deterred some Persons less inclined to an implicit Belief, from disproving it.

The Difficulty or Tedioufness however would not on Trial have been found so great as they have been imagined: All the Trouble it cost me, was no more than three or four Distillations. The Water I chose for the Experiments, was that of a small Spring in *Hyde Park*, esteemed the purest and finest of any in the Neighbourhood of *London*, though as appears on Trial, on a very bad Foundation, it being, though the most clear and pellucid, yet perhaps the most loaded with Spar of any in the Neighbourhood.

I had before observed from the Distillation of several different Waters, that some yielded a much larger Quantity of Spar than others, and that the Quantity was always smallest when the Distillation had been made with the greatest Fire, and greatest when the Fire had been weakest; and this in the Proportions of eight, ten, twelve, nay sixteen to one. I procured a glass Cucurbit of a peculiar Form, and from the Result of these former Observations worked over a Quantity of the Water with a very slow Fire. The Consequence was, that in the Bottom of the Cucurbit there appeared a brown Spot formed of the Spar, separated from the Water by this slow Distillation. The Water in the Receiver was poured back on this, and distilled again with a yet gentler Fire of such a Degree only as was just sufficient to raise it. The Consequence was, that the Spot was enlarged; and its upper Part or the Crust added from the last Distillation was whiter than that which formed the lower Part, and was the Result of the first. The Matter thus separated was now taken out of the Cucurbit, and the Water taken out of the Receiver was returned into it again for a third Distillation: This though performed with as slow a Fire as the last, left not the least Grain of solid Matter of any Kind, but the Bottom of the Cucurbit was as perfectly clean as when the Water was put into it.

Here then is an evident Proof of the Falsity of the Doctrine so long established and so strongly supported by Authority. It appears to a Demonstration, that Distillation supposed to be a Process of sufficient Power to convert Water wholly into Earth has no Power of that Kind at all; that in all the Operations of this Kind ever performed, not a Grain of Water ever was converted into Earth, but merely a solid Matter, which a thousand other Experiments prove to be contained in all Water, has been separated from it by this Process; and that there is so little Foundation for the Assertion of the Spot of solid Matter increasing after every Distillation, however often repeated, while there remains any Water to work upon, that two Distillations only, carefully performed, separate the whole; and no Addition to the Spot can be made afterwards, nor any Particle of solid Matter by any Means separated from the Water.

If the two first Distillations indeed are performed with too great a Heat, a Part of the solid Matter contained in the Water will be raised in Vapour, and in that Case the Spot of Earth, as it is called, will be smaller after these two Distillations, and will become larger after a third, or even after some successive ones; but this depends on the mere Inaccuracy of the Operator; and the Quantity of solid Matter thus separated is not at all the greater for being the Result of such a Number of repeated Distillations, there only having been a certain Quantity, and that indeed but an extremely inconsiderable one in Proportion to the Bulk of the Water of solid Matter originally in it, and separable from it.

The Addition to the Quantity of this Spot in some of these succeeding Distillations, has naturally led the Experimenter into the Error of supposing the solid Matter not procured by Separation from the Water, but by Conversion of Part of its Substance into this Form, and into the imagining that every succeeding Distillation would continue to have the same Effect. The Error is pardonable enough, but the Disingenuity of putting off these Imaginations as experienced Trials upon the World, is unpardonable.

Though the purest Water is always to be preferred for the common Purposes of Life, that which is most of all loaded with Spar is not without its Use. Spar in all Forms has been in all Ages celebrated as a Diuretic, and that by People who did not know that it was Spar they were using; but who meeting with it under various Forms, have given it with Success under various Names. Thus we find the *Lapis Judaicus*, the *Ostracites*, and the *Stalactites*, all celebrated as Diuretics, by People who had no Idea, that they were the same Substance, Spar, under all this Variety of Forms; and the *Germans* at this Time have certain Springs, the Water of which is resorted to from great Distances by People who have the Gravel or other Obstructions in the urinary Passages, and drank with Success; all which Springs contain a vast Quantity of Spar, and some of them precipitate it on the several Bodies they meet with in their Passage.

The Uses of common Water on the various Occasions of Life, and its Service in the animal Oeconomy, are sufficiently known. Whatever are its Virtues however Caution is to be used as to the State in which it is drank. People in Health ought to drink it in a temperate State; those who are sick ought, in whatever Form it comes to them, to have it warmed. Water drank for a Constancy extremely cold, injures the Nerves, and occasions Torpors, and even paralytic Disorders of the internal Parts: It often also gives very violent Cholics, and hurts the Digestion; if drank in this State at a Time when the Body is heated with Labour or Exercise, there is no End of the Disorders it may occasion, nor any thing more fatal than the Mischiefs that may attend it. On the other Hand, warm Water taken too largely, and that for a Continuance, is not without its ill Consequences: It too much relaxes the Fibres of the Stomach, and the Food, in Consequence of this, passes off not half digested.

Our Doctor *Hancock* has given cold Water great Praises as a Medicine; he tells us of his having cured Fevers of many Kinds, and a Number of other Distempers by giving a Draught of it in the Beginning of the Disease, and suffering it to take its natural Course, and act as a Sudorific. He orders six or eight Ounces of it to be given to Children, a Pint or a Quart to grown

grown People, at the coming on of the Disease, or in Intermittents, at the coming on of the Fit. They are to be laid in Bed first, but its Operation is not to be promoted by any Additions of Covering. The whole Body becomes warm soon after, and usually after this a plentiful Sweat succeeds. The first Dose frequently cures in Intermittents, but a second or a third, he tells us, very rarely fail.

The cold Water Method has been carried much farther in some other Countries than it has even been proposed with us. People have been made to take it in chronic Cases, to the Quantity of four, five, or six Quarts a Day, and this for a Continuance of a Fortnight or three Weeks, sometimes longer, and little or no Food of any Kind allowed during the whole Course. Some have been starved by this meagre Discipline; but it is affirmed that many have been cured by it.

In this Practice it is not expected that the Water should sweat the Patient, as Dr. *Hancock* would have it do; Care is taken on the contrary that they are not suffered to sweat after it, but it is to be voided by Stool and Urine: It is a Method of Practice however that is not likely to be ever brought into Use among us.

Another great Use of Water in a medicinal Way, is in Baths of the cold and of the warm Kind. The latter are the more agreeable to the Patient, and very great Effects have been produced by the former.

Warm Baths are emollient, relaxing, and attenuating, they promote Perspiration, and take off the Sense of Weariness and Pain; they are of great Service often in nephritic Cases, and serve happily to bring out Eruptions on the Skin, in many Cases when Nature is labouring at that End, and is oppressed in many other Respects, because not able to effect it.

Warm Baths however are not to be indiscriminately advised to all People: Those of plethoric Habits; and those in Danger of paralytic Complaints are by no Means to use them; and they are in general to be avoided in Fevers, Deliriums, Diarrhoeas, and Hæmorrhages of whatever Kind.

Cold Baths have the exact contrary Effects to the hot ones; they contract as much as the other relax the Fibres. The best Time of going into them is in a Morning; and Exercise or else a warm Bed is to be recommended afterwards.

The *Romans*, we are told, had a Method of plunging themselves out of their hot Baths into their cold ones. They did this to preserve Health, and to give them Strength and Spirits. The *American Indians* are found in Possession of a Secret of the same Kind; but they use it as a Cure for Diseases. They sweat themselves between hot Turfs of Earth, and in the midst of this plunge themselves into Beds of Snow: A strange wild Method! but not attended with the ill Consequences among them, that might be imagined.

OF MEDICINAL WATERS.

MEDICINAL Waters are such, as beside the sparry, earthy, and crystalline Matter contained in all Water, are impregnated with other mineral Particles, and these either of the metalline or saline Kind. These Waters

ters are distinguished into two general Kinds as they come forth out of the Ground, either hot or cold. The Names by which they are called are *Thermæ* and *Acidulæ*. The Name of *Thermæ* is properly enough given to the hot ones, expressing as much; but the other Term, *Acidulæ*, is not quite so apposite to the cold ones, because they rarely contain an acid Salt, but always an alkaline one. It was given them on Account of a certain urinous, or, as some express it, a subacid Taste, which many of the cold mineral Waters have when fresh drawn from the Spring.

The Particles with which these Waters are impregnated are in general of four Kinds, metalline, saline, sulphureous, or terrene. They cannot but be extremely frequent, as the Substances that impregnate one or other of them are in almost all Parts of the Earth. There are more than a thousand in *Germany* alone; our own Island affords a vast Number, and scarce any of the known Parts of the World but abound with them. It would be far from the Intent of a Work of this Nature to give a History of them all, or to enumerate the Virtues ascribed to them,

Of W A T E R S

Impregnated with Mineral Particles.

COPPER and Iron being the two Metals most easily soluble in Water, are the most common in the Impregnation of Springs. The cupreous Waters are found in Places where there are Mountains abounding in Copper; and some of them are so strongly impregnated with it, that they carry off the Particles of Iron laid in them, and leave the Copper they contained in their Place. This is called transmuting Iron into Copper, but that pompous Name was only given to the Operation, from an Ignorance of the Manner in which it was performed. The ferrugineous Waters are much more frequent than the cupreous, and of much greater Use to the World. These with the Iron, usually contain many other extraneous Particles, earthy, and of other Kinds, as appears by Evaporation, and always a peculiar alkaline Salt, to which they owe a great Part of their Qualities. They all have more or less of the ferrugineous Taste, and all discover the Metal they contain, by putting a little Powder of Galls into them as they become Purple, and afterwards black like Ink on that Admixture. A Number of other vegetable Substances will answer the same Purpose, but none so certainly and so readily as Galls where the ferrugineous Matter is in very small Quantity.

The alkaline Salt that is in all these Waters is somewhat of the Nature of the *Natrum* of the Ancients, being a native fixed Alkali; it differs from the common Alkalies, in that it is reducible to Crystals like the *Natrum*, and from that in no less essential a Point than the Figure of those Crystals. Both these Salts indeed have them of a quadrangular Form, but those of the *Natrum* are trunkated at the Ends; those of the alkaline Salt of the Chalybeate Waters terminate in Pyramids in the Manner of those of Nitre, and of the same Number of Sides with the Columns. This Salt has all the Properties and

Qualities of the common fixed alkaline Salts produced from Vegetables, mixed with Acids it effervesces and produces neutral Salts ; with an Infusion of Violets it turns green ; with a Solution of corrosive Sublimate it precipitates a yellow Powder from it ; and finally, with crude *Sal Armoniac* it produces an urinous Smell.

It is of the utmost Importance to the Waters of this Kind : They contain no other Alkali, and yet there is no accounting for their Properties rationally without supposing one, nor any imitating them with tolerable Success without such a Salt. The common fixed Alkali of Tartar will however answer the Purpose on these Occasions, and with that and a Solution of the *Pyrites*, or of Iron by the Help of an Acid, a Water may be prepared greatly resembling the natural chalybeate ones, even the finest not excepted ; and by varying the Proportions, the Liquor may be brought to imitate not only the Taste, but the Qualities of any chalybeate Spring, whose Waters a Person would wish to drink, but cannot conveniently get at.

The Salts, Tinctures, and other chymical Preparations of Steel, contain the Virtues of that Metal as strongly, or much more so indeed than the natural, or than these artificial Waters.; but there are many Reasons why the Waters, especially the native ones, are to be preferred to them. Both agree in the Advantage of a copious Quantity of Liquid, swallowed with the medicinal Matter ; by which Means viscid and tenacious Humours, that cause the Obstructions they are often drank to remove, are much better dissolved than they could be even by a more powerful Medicine with less Fluid ; and the native ones in particular have the Advantage of containing the Particles of this Metal in so remarkably fine a State, that they are even volatile, and not only are suspended in the Water, without altering its Colour or Pellucidity ; but on that Water's being exposed to the Air but a little while, they fly off and leave it vapid and insipid, though before extremely spirited, and strongly tasted of the Iron. They are of Service in all Cases in which Chalybeates are proper, and even when there is not Convenience of taking these, there is no Way of giving Chalybeates themselves with so much Effect, as by largely diluting them with Water.

Of W A T E R S

Impregnated with Saline Particles.

THE mineral Waters impregnated with Salts are very various, according to the Nature of the Salts they contain. Some of them are impregnated with a Salt of the marine Kind, others with a fixed alkaline one of the *Natrum* Kind ; these last are called nitrous, but very improperly ; and others with an Alkali and a vitriolic Acid, which mixing together form a Salt of the Nature of the factitious one invented by *Glauber*, and named from him. These last are by much the most common of all, but their Origin is in general the least understood.

The Waters containing marine Salt alone are no other than weak Brine Springs, the same in their Nature with those from which we in many Parts of *England* prepare Salt for the Table, only that they have but a very small Portion of it. The Sea Water itself comes under the Class of these. But there is a great deal of Difference in the Taste, Qualities, and Effects of this, from the Waters of such Springs: They are in general impregnated solely with pure Rock Salt of the Sal Gem Kind without any Admixture; but the Sea Water contains with this Salt another of the volatile alkaline Kind produced by the Putrefaction of the Bodies of dead Fish in it, and always with this a Portion of *Bitumen*; to which it owes its Bitterness.

Sea Water is, because of this disagreeable Taste, rarely given internally, though when People can be prevailed with to take it, great Advantages are to be expected from it. It is of great Use however in bathing; cutaneous Eruptions of almost all Kinds are cured by a constant Use of it this Way for some time; Tumors and Pains in the Limbs are often also carried off by it; and we find it continually recommended as the great Medicine against the most terrible of all Diseases, the Bite of a mad Dog. It is a common Error to suppose that Water with Salt dissolved in it, is the same Thing with Sea Water. It is said indeed that it has answered in the external Way by Way of Bath in some Cases, but those People have been miserably deceived, who thought when the internal Use of Salt Water was some time since brought up among us, that they supplied its Place in a pleasanter Manner by drinking instead of it; common Water with some Sea Salt dissolved in it.

The medicinal Waters naturally impregnated with Sal Gem, purge by velli-cating the Intestines, and promote the Discharge by Urine; they are also discutient, drying, and astringent. They are recommended in dropfical and cachectic Cases, and often do great Service: They cleanse foul Ulcers externally used, and dispose them to heal, and by a long continued Use, have been known to do Service in paralytic Complaints, and to cedematous Tumors. There are a great Number of these Springs in *France*, and great Benefit is received from them.

The Waters which contain an alkaline Salt, and are improperly called nitrous ones, are cathartic and diuretic. It is evident that the Salt they contain is very different from our Nitre, since when separated from them, as is easily done by Evaporation, it is not of the Taste of Nitre, but acrid and lixivial; and when thrown upon the Fire, it does not deflagrate as Nitre does. It is a true fixed alkaline Salt of the Nature of the *Natrum* of the Ancients, or Soap Earth as it is called of *Persia*. It affords the same quadrilateral truncated Crystals on a careful Evaporation after a second Solution, and like that Salt has all the Properties of the fixed Alkalies fermenting with Acids, turning Syrup of Violets green, and the like.

The Waters impregnated with this Salt, of which there are many in *France* and *Germany*, are excellent for the attenuating tough and viscid Humours, and removing Obstructions of the *Viscera*. They are also given in Jaundices, in Palsies, and in nephritick Cases with Success. It is however a general Rule not to give these Kind of Diuretics, where the Suppression of the Urine arises from a Stone too large to be voided. For in this Case, the Afflux of a larger Quantity of Urine to the Passages, must be of great Hurt instead of Good

to the Patient. Externally these Waters are used with Success in Tumors and hard Swellings, and in paralytic Numbnesses.

The most common of all the Waters impregnated with Salt are the purging ones, which contain a Salt of the compound Kind easily separable from them by Evaporation, and when separated found to be of the Nature of *Glauber's* Salt: Of this Kind are many of the common purging Waters about *London*, and those of many other Parts of the Kingdom. Yet though these Waters are of all the mineral Kinds the most common, their Nature and Origin has been the least understood: They have been supposed by many to contain only Sea Salt, by others a nitrous, and by some by a wilder Guess than any of these, to be impregnated with a shining fossile Substance resembling Talk, and properly called *Selenites*. There are usually *Selenitæ* of one Kind or other met with in the Strata of Clay, through which they dig to get at these Springs, and this having somewhat of the external Appearance of a Salt has been supposed to impregnate them; but this is so contrary to Reason, that no one acquainted with the Mineral Kingdom can give any Sort of Credit to it: The *Selenitæ* are not soluble in Water, and if they were, they must give the Water they were received into an astringent, not a cathartic Virtue. They are all manifest Astringents, and one of them in particular, of the rhomboidal Kind, is called by the People of some of our Counties where frequent, *Staunch*, from its known Virtue of stopping Hæmorrhages.

The Salt which impregnates these Waters is of a compound Kind; it wants a Name at present; but it is the very same Salt with that made by Art, and called from its Inventor *Glauber's* Salt. On looking into the Process of making *Glauber's* Salt, one would not think it at first Sight the Result of a Combination likely to be made by Nature in the Bowels of the Earth; yet nothing is more certain than that these Waters all contain a Salt of the same Kind with this of *Glauber*; and that the same Salt is not only found in this State of Solution, but even in a solid Form in the Earth, and that not only in *England*, but in almost every other Part of the World.

The Clay Pits about *London*, and in many other Places near which there are purging mineral Waters, abound with a Kind of Nodules or Masses of Clay, of a different Colour from that of the *Stratum*, usually paler and yellower; they are commonly of the Bigness of a Hen's Egg or thereabout, sometimes flat, sometimes roundish, and more usually oblong. They have always something of the pyritic Kind in their Center, very frequently a regular crustated ferrugineous Body, with a great deal of the Matter of the common *Pyrites* in some of their Crusts; and they are often spangled on the Surface with a Number of small glittering *Selenitæ*. These Nodules, after they have been some time exposed to the Air, frequently contain a large Quantity of a native Salt of this Kind, they never have any of it when first dug up, and many of them afterwards have so little, that it requires some Address and Management to discover it, but others of them contain so much that it is very evident to the Taste, and easily separated in fair Crystals: To have them in this State however, a proper Period is to be watched; it does not happen till they have lain a long time exposed to the Air, and soon after they are arrived at it, they moulder to Pieces and are lost.

Accident discovered the Salt to me in one of these Nodules, collected at the lucky Period. I had thrown it into a Bason of Water, with no other Intent than to separate the little *Selenites* it contained, without injuring their Figure, when after a Day or two's standing the Sides of the Bason were incrusted round with small Crystals, whose Figure and Taste declared them to be the same with *Glauber's* Salt; on examining other of the Nodules, some of them were found covered in certain Parts with white Efflorescences, which were bitter and cold in the Mouth, and were evidently the same with the Salt first separated, and with *Glauber's* Salt. A Quantity of this Salt afterwards separated from a Number of these Nodules, formed itself pretty regularly into the true Figure of *Glauber's* Salt, and answered all its Characters on the strictest Examination. It is bitter and cold to the Taste like it, it dissolves as readily in cold Water as common *Glauber's* Salt, and requires the same Quantity of Water to dissolve it: It like that Salt loses two thirds of its Weight in Calcination. Its *Calx* mixed with three Times its Weight of Water coagulates it into a Sort of Ice: It dissolves Iron, and precipitates it in a fine reddish *Crocus* as it dissolves it: It calcines in the Air and Sun, just as the *Glauber's* Salt does: It easily melts in the same Manner on burning Charcoal without taking Fire, and burns to a saline *Calx*; and it precipitates Mercury dissolved in Spirit of Nitre into a yellow Precipitate or Turbith. These Experiments leave not the least Room to doubt its being the very same Salt with that procured by Chemistry, according to *Glauber's* Method; nor is this the only Instance in which such a Salt has been found. The *French* Academicians received from *Grenoble* in *Dauphiny*, so long since as in the Year 1727. a saline Earth, full of glittering Spangles, which on an accurate Examination made by Monsieur *Bolduc* was proved to contain a true *Glauber's* Salt. The Mention of Spangles in this Earth so well agreed with the *Selenites* found usually in that which contains this Salt with us, that it was easy to suspect they were the same; I procured some of the Earth from the Place, and found it much like our own, but of a darker Colour, and the shining Spangles not to be concreted Salt, as some had imagined, but Fragments of *Selenitæ* of the plated Kind: When the Hint of a native Salt was thus given among the *French*, they set on Foot Enquiries after it in other Places, and it has accordingly been discovered in some other Parts of their Dominions; and in *Spain*, *Hungary*, and even in *Egypt*, where Mr. *De Mars* found it in the Year 1732. In many of these Places it does not wait the Effects of Exposure to the Air, in order to form or disclose itself, but is formed at different Depths in the Earth as perfect as on the Surface; and in all Probability it is in the same Manner lodged perfect in the Strata in some Places with us; though the Discovery of it is at present so new, that there has been no Opportunity of carrying the Searches farther.

Where this Salt is lodged native and perfect in the Earth, there is no Question but it must be frequently dissolved in the Water pervading the Strata, and its purgative Virtue being the same with that of the common *Glauber's* Salt, it cannot but impregnate the Waters with the same purging Virtue; in Effect it is to this Salt sometimes pure, sometimes disguised by Admixtures of other Salts that most of the purging Waters of *Europe* owe their Virtue. In *France* there have very lately been discovered some Waters impregnated with this Salt, only; in *Spain* it is found only in Water, never in a solid Form, or lodged in Earth,

Earth, but when separated from the Waters of the Springs that contain it, it is entirely the same with this Salt of ours, and of the *French*, and with the *Glauber's* Salt of the Shops. We have the Experiments made by *Bolduc* on the Salt thus separated from the *Spanish* Waters, and on the *Sal Glauberi* of the Shops, to prove that they are absolutely the same, he gives us several Processes on metalline Subjects with them, and the Operation of both is the same in all respects, and is plainly that of a vitriolick Acid.

When we examine the Process for the making the factitious Salt of *Glauber*, we shall find that it is the result of the Combination of the vitriolick Acid with the alkaline Matter which is the Basis of common Salt; and when we understand so much of it, it will not be difficult to allow that it is a Process that may be perform'd, and a Combination that may be made in the Earth. We find that *Stahl's* weaker Acid of Sea-Salt will give Place to the stronger Acid of Oil of Vitriol on Mixture, and yielding up its Basis to this new one, there is a new Salt produced, and this without any chymical Apparatus, or the very Assistance of Fire, the Acid of one Salt may then easily combine with the Basis of another. The Basis of Sea-Salt is a harsh Earth, so extremely attenuated as to approach to the Nature of an alkaline Salt. This Earth is in all the fossile muriatic Salt scatter'd throughout the Earth, and this fossile Salt is present in many Places, as may be proved by Experiments made with that nice Test a Solution of Silver, where it is not at all suspected, as not being in Quantity enough together to be distinguishable to the Taste; but beside this Salt, the Earth which is its Basis may be also loose and separate, in disseminated Particles in many Earths where we have no Idea of it, but where the vitriolic Acid finding it out, may combine with it, and form a Salt like what is here described. that the vitriolic Acid abounds in the Earth is evident beyond all Dispute, and that these do meet and combine is as certain from this Salt, which can be the Result only of such a Combination, as it is from Reason that they may.

In the Case of our *English* saline Nodules, the manner of their becoming impregnated with this Salt, shews evidently that this alkaline Basis of Sea-Salt is contained in the Clay, and is ready to receive the vitriolic Acid whenever it offers; these Nodules contain the Matter of the *Pyrites* within them, which while in the Earth, like the *Pyrites* in all other Forms while bury'd, discloses nothing of its vitriol Acid, and therefore cannot act upon the Alkali in the Crust; but no sooner has it been exposed to, and penetrated by the Air, than Vitriol is form'd, and its Acid mixing with the Basis or alkaline Matter in the Crust, affords us this singular Salt. As these Nodules contain none of this Salt till they have lain a while exposed to the Air, it is impossible that they should impregnate the Waters that pass through the Strata where they lie and make them cathartic; but in all probability there is more of this alkaline Matter in the Strata, which meeting with the vitriolic Acid ready form'd in the Earth, furnishes the purging Salt, which is the Result of their Mixture in abundance, and impregnates with it all the Water that passes by.

It is evident that there does not need absolute Sea-Salt for the Formation of *Glauber's* Salt, the Basis of that Salt is sufficient, and is what our new found Salt is form'd of. Our Salt, or that of *Glauber*, will either of them make a *Hepar Sulphuris* with Charcoal; and the Basis of our Salt separated by this Process, and examined in the nicest manner, and by the most critical Experiments,

ments, proves to be entirely the same with that of *Glauber's* Salt, and both the same with the Basis of Sea-Salt. Mix'd with the Spirit of Nitre, it produces the quadrangular Nitre; with Spirit of Salt it affords a true regenerated Sea-Salt, which is the strongest of all. Proofs that it is absolutely the same Substance, that is the Basis of Sea-Salt; and mix'd with Oil of Vitriol it produces a true and genuine *Glauber's* Salt again.

There is not in the World a Salt more singular in its Nature and its Effects in Mixture than *Glauber's* Salt; or that has more incommunicable Properties: This Salt by numerous Experiments I have found to contain them all, and all of them in the same Degree with that: The Mixture it is liable to when found in a State of Solution in the purging Waters, renders such as is separated from them less fit for the nicer Experiments, but that which is separated by Solution from these Nodules, will never fail to answer in every Particular to the utmost Nicety.

The Waters impregnated with this Salt purge gently and without Pain or Irritation, and are excellent in all Disorders arising from a viscid Phlegm, which they attenuate and carry off; they restore a decay'd Appetite by perfectly cleansing the Stomach when oppress'd with a Load of this Phlegm, and are good in all Disorders arising from Obstructions of the Viscera.

Of W A T E R S

Impregnated with Sulphureous Particles.

THE sulphureous mineral Waters are distinguished from all others by their Smell, which is always like that of Lime or of Sulphur, though very different in Degree; many of them also encrust with absolute Sulphur the Passages through which they run, and the rest when evaporated to a Dryness, always afford a *Residuum*, which proves to be sulphureous on chymical Trials, and indeed discovers itself sufficiently and obviously on throwing it on burning Coals, for it burns there with a blue Flame and a Smell, that no body can be mistaken in. The Sulphur with which these encrust the Passages they run through, is extremely like the finest Flower of Brimstone, it is of a pale yellow Colour and very sulphureous Smell. It is collected on the Spot, and is much esteem'd in some Places for medicinal Use, but as to its excellency that Way, it is not easy to conceive that it can be greater than that of Flower of Brimstone truly prepared.

The Waters thus impregnated are drank for Asthmas and other Diseases of the Breast, and in Cases of cutaneous Foulnesses of all Kinds, in which they have great Success. They are also used as Baths on the same Occasions, and for trembling Contractions, or paralytick Numbnesses of the Limbs, and for the Rickets in Children.

The Virtues of Sulphur may be communicated to Water, and it may be made to imitate that of the natural sulphureous Springs, by burning and quench-

ing

ing *Sulphur Vivum* in it several Times, but it becomes a very disagreeable Liquor by this Means.

Of W A T E R S

Impregnated with terrene or earthy Particles.

TH E mineral Waters impregnated only with terrene or earthy Particles are of an inferior Class to all the others: There are several of them in *Germany, Italy, and Lorrain*, they contain a fine white light Earth, which is much the same in all of them, and is no other than the *Lac Lunæ* of the modern Authors, or *Creta Seleneusiaca* of the Ancients: This is sustained in such imperceptible Particles in them as they came out of the Spring, that they are perfectly clear, but they do not carry it far, but deposit it about the Bottom and Sides of their Channels as they run off.

They are drank against Hæmorrhages, habitual Diarrhœas, Dysenteries and Diabetes, and in all Cases where a soft alkaline Absorbent and Astringent can be of Use; but in general the taking the Earth they deposit, or any other soft alkaline astringent Earth in its Place, would answer the same Purpose, and in many of the Cases would succeed better alone than with that Load of Water it is joined with in this State.



THE
H I S T O R Y

OF THE

Materia Medica.

PART the SECOND.

O F T H E
B O D I E S ufed in M E D I C I N E,

Belonging to the

V E G E T A B L E K I N G D O M.

VEGETABLES are organiz'd Bodies, confifting of various Parts; containing Veffels furnifh'd with different Juices; and taking in their Nourifhment from without, ufually by means of a Root, by which they are fix'd to the Earth, or to fome other Body, as in the generality of Plants; fometimes by means of Pores diftributed over the whole Surface, as in the Submarine ones.

The medicinal Subftances furnifhed by the vegetable World are very numerous. Confidered as Subjects of the *Materia Medica*, they are of three Kinds.

1. ENTIRE VEGETABLES.
2. PARTS OF VEGETABLES.
3. PRODUCTIONS OF VEGETABLES.

Of the Vegetables ufed entire in Medicine, there are only two Claffes.

1. The MARINE PLANTS.
2. The FUNGI.

The Parts of Vegetables are naturally arrang'd into ten Claffes.

1. ENTIRE PLANTS, the Roots only excepted.
2. STALKS OF PLANTS.
3. LEAVES OF PLANTS.
4. FLOWERS OF PLANTS.
5. FRUITS.
7. ROOTS.
9. WOODS.
6. SEEDS.
8. BARKS.
10. EXCRESCENCES.

The Productions of Vegetables are partly natural, as the Gums and Refins, which either flow abfolutely fpontaneous, or at the utmoft are only affifted by wounding the Vegetable; and partly artificial, as the infpiffated Juices, and other fuch Subftances call'd Vegetable Preparations.

Of the natural vegetable Productions there are four Claffes.

1. LIQUID RESINS.
2. SOLID RESINS.
3. GUMS.
4. GUM RESINS.

Of the artificial there are two.

1. INSPISSATED JUICES.
2. SALTS.

V E G E T A B L E S

V E G E T A B L E S

Used in MEDICINE entire.

C L A S S the F I R S T.

MARINE PLANTS.

Of the Bodies of this Class there are only three kept in the Shops, these are,

1. CORAL. 2. CORALLINE. 3. SPUNGE.

CHAPTER I.

CORALLIUM RUBRUM,

Red Coral.

RED Coral is a Plant of a very peculiar Structure and Figure, it is met with in the Shops in small ramose or branched Pieces: These are usually of the Thickness of a Packthread, or very small Crow-Quill, and are of a pale red Colour, and usually striated longitudinally on the Surface. They are of an extremely hard and stony Nature, very heavy, and have neither Smell or Taste.

These are the Fragments and small Branches of the Coral Plant: The larger and finer Pieces are used for other Purposes, where a larger Price is paid for them, but these possess as much Virtue. The Plant to which they belong is one of the *Cryptogamiæ* of *Linnaeus*, one of the *Herbæ Marinae* of *Tournefort*, and of the *Herbæ Imperfectæ* of *Mr. Ray*. It is throughout of the same Hardness and stony Nature, and that as well while growing under the Water, as when it has been ever so long exposed to the Air. All that has given Occasion to the vulgar Opinion of Coral's being soft while in the Sea, is, that it has a soft and thin Coat, of a crustaceous Matter, covering it while it is growing, and which is taken off before it is pack'd up for Use. The whole Coral Plant grows to a Foot or more in Height, and is variously ramify'd. It is thickest at the Stem, and its Branches grow gradually smaller to the Extremities. It grows to Stones or any other solid Substances, without a Root, or without any way penetrating them as Plants do the Earth from which they receive their Nourishment. It grows not only on Rocks and Stones, but on Sea-Shells, and on any solid Body that it meets with at the Bottom of the Water; old Iron Instruments, broken Glafs, and earthen Vessels, and even the Bones of Men lying at the Bottom of the Sea, have been found with regular and fine Plants of red Coral growing from them.

It has been doubted by some Authors of great Credit, whether Coral were properly a Plant or not; some have been for making it a fossile Production,

form'd as Crystals and Spars are, of this Number is our *Woodward*; others have been for referring it to the animal Tribe, of which Opinion many of the *French* Naturalists are at present: But as it is found to grow and take in its Nourishment in the manner of Plants, and to produce Flowers and Seeds, or at least a Matter analogous to Seeds, there requires no farther Argument to prove that it truly and properly is of the vegetable Kingdom. *Boccone* discovered its nutritious Juice lodged in Cells under the Bark or Rind, and Count *Marfigli* the Flowers and Seeds.

The external Bark or Rind of the Coral, while in the Water, is of a fungous spongy Texture, of a yellowish or greenish Colour, and is full of an acrid Juice resembling Milk. It covers every Part of the Plant, Root, Branches and Trunk, and is easily separated by rubbing from the stony, or internal Part while moist; but if suffered to dry on it adheres to it very firmly. It is externally rough, and cover'd as it were with small *Papillæ* or Granules, in the Center of every one of which there is a little Hole which gives Admission to the Sea-Water for the Nourishment of the Plant; so that the Coral, though as it adheres to the thing it grows on only by a thin and flat Basis form'd of its own stony Matter, might seem to want a Root, it is truly all over Root; the *Papillæ* of this cortical Matter doing every thing that the Extremities of the Roots of Plants in general do. Beside the little Granules already mentioned, there are here and there placed on the Bark *Papillæ* of a large Kind, which are regularly divided into Cells within, the Orifices of all which shew themselves on the Summit of the *Papillæ*, and form sometimes an oblong or roundish Aperture there, or more usually one that is divided into six Parts, and appears of a stellar Figure. The internal Surface of the Bark is striated also, or hollow'd in longitudinal Furrows, which are so placed as in Correspondence with the Furrows between the Ridges of the internal Matter to form a set of Tubes, by means of which the Nourishment received in at the Apertures of the Bark is distributed all over the Plant; and there are even Apertures in several Parts of the Surface, of the very stony Matter of the Coral, which lead to certain Cells in it, in which is lodged the same nutritious Juice. This Juice is thick, white and acrid, and has somewhat of a Taste like what we might expect to find in a Mixture of Pepper and Chestnuts. When the whole is dry'd, this Juice loses its white Colour and its Taste; it becomes a yellowish Matter, resembling Resin, and is friable and insipid, except that it manifests a little Astringency.

On the Summits of the Branches there stand certain soft Tubercles, form'd of the same Substance with the cortical Matter; these are divided into Cells, and are fill'd with the same milky Juice with the rest; these are taken by some for the Seed Vessels of the Coral, but they rather appear Organs like those of the rest of the Bark, design'd to prepare the Juices for the Nutrition of the Plant. The Flowers of the Coral are contained in the *Papillæ* of the Bark. If Coral fresh taken out of the Sea be kept for Observation in a Vessel of Sea-Water, in a warm Place, the *Papillæ* gradually swell, and afterwards expand themselves and throw out some Drops of a milky Fluid; at this Time also there arises from each *Papilla* a white Calyx, about a tenth of an Inch or somewhat more in Length, and supporting eight little Petals or Leaves of a white Colour, disposed in a radiated Form, in manner of a Star: After these have been expanded eight, ten, or twelve Days, they begin to grow flaccid; they then be-
come

come yellowish, and finally they contract themselves into a globular Figure; within this, which is now a Sort of Seed Vessel, is contained a whitish Liquor; soon after they assume the globular Form, they fall off from the Plant and sink to the Bottom of the Water. The Seeds of the Coral are probably contained in the Juice within them, for where they shed this Juice, whether it be on Rocks, Stones, or whatever other Matter, there young Shoots of red Coral afterwards appear.

It was an egregious Error in the Ancients to suppose that Coral was soft while under Water; its red stony Matter is as hard while growing as afterwards, and as to its cortical Part it never grows stony at all, though in drying it does indeed become somewhat harder than it was while in the Water.

Coral is in Flower almost at all Times of the Year: When fresh taken out of the Sea it has much more Virtue than after it has been kept for Years in the Shops. Its cortical Part, in particular, contains many active Principles while fresh, which it wholly loses in drying: The fresh cortical Part of Coral distilled in a Retort, yields after a small Quantity of an insipid Phlegm, more than a third Part of its Weight, of an urinous Spirit, and with it no small Portion of a bituminous Oil; and the remaining Matter in the Retort yields by Lixivation a moderate Quantity of fix'd Salt. The stony or hard Substance of the Coral distilled by itself, yields also the same Principles, but in a vastly smaller Quantity; and the Phlegm which first comes over is not limpid as in the former Case, but whitish and milky; the Remainder in the Retort yields one third more fix'd Salt however than that from the cortical Part. This Salt in both is the same, and is not wholly alkaline, but has somewhat of the *Sal Salsus* with it.

Red Coral slightly calcined in a common Fire, or any other Way affected by a very moderate Heat, becomes white. Infused in Wax or in Oils it in the same manner becomes white, and the Menstruum red, but this is not effected by any aqueous Menstruums.

It is evident from these and many other Experiments, that red Coral is not as some suppose a mere terrestrial Absorbent: It plainly contains Particles of a bituminous, saline and urinous Nature: These however are found in much greater Perfection in it when just taken out of the Sea, than after keeping. The Ancients ascribed great Virtues to Coral as a Cordial and Alexipharmic, and at other Times as a cooling and astringent Medicine; they used it externally as well as internally; we use it only internally, and that as an Astringent and Absorbent in Diarrhoeas, the *Fluor A'bus*, and Hæmorrhages, but in none of these Cases alone, but with other Medicines of the same Intention.

Authors have given us Receipts for a great many Preparations of Coral, among which are Magisteries, Tinctures, Syrups, and Salts. At present however they are all disused, and we know it in the Shops in no other Form but that of the Powder finely levigated. If any one has a mind to a real Tincture of Coral, the best Method of preparing it is by extracting the red Colour with Oil of Aniseed, then distilling off the greater Part of the Oil, adding Oil of Tartar to the Remainder, and evaporating the whole to a dry Mass, on which Spirit of Wine is to be pour'd to extract the Tincture.

We hear of white Coral in the Shops, and many suppose it to possess greater Virtues than the red. The Ancients however have said nothing of any such Substance,

Substance, and what we meet with in the Shops under this Name, is a Species of another Sea-Plant, the *Madrepora*.

There is a black Coral, of the same stony Substance with the red, and as glossy as the blackest Marble, but we see no such thing in the Shops; what is kept there under this Name, is a Plant of a quite different Genus, not of a stony but a tough and horny Texture, and is the *Lithophyton* described under the Name of *Lithophyton nigrum Arboreum*, and *Corallium nigrum officinarum* by Authors.

The several Species of *Madrepora* sold in the Shops under the Name of white Coral, are all light and hollow, and mark'd with Holes on the outside. The most frequent Kind we meet with under this Name is the common *Madrepora* of Authors, call'd *Corallium Album Occulatum* by the old Writers.

People may, if they please, imagine that this *Madrepora* possesses the same Virtues with the white Coral, if they can find any such Drug; but a chymical Analysis of it shews it cannot possess those of the red, for it yields no Oil or bituminous Matter on Distillation, but only a volatile urinous Spirit.

CHAPTER II.

CORALLINA, *Coralline.*

CORALLINE is another of the Sea-Plants used in Medicine, but much inferior to the red Coral in Hardness. We meet with it in the Shops preserved entire, or in the whole Plant, which is naturally very ramose or branched, and forms a sort of Bunch of Filaments two or three Inches long, and each of them of the Thickness of a small Packthread. These are not smooth however, but jointed, or composed as it were of a great number of short Pieces of a regular Figure, fasten'd in a regular manner one to the End of another. They are considerably hard, not at all tough, but crackling between the teeth and easily reduced to Powder, and are of a very various Colour, sometimes greenish, sometimes yellowish, often reddish, and not unfrequently white. They are of a rank and disagreeable Smell when fresh, and are of a saltish acrid and very disagreeable Taste.

Coralline is one of the *Cryptogamiæ* of *Linnaeus*, one of the *Herbæ Marinae* of *Tournefort*, and one of the *Herbæ Imperfectæ* of *Mr. Ray*. It is described by all the botanical Writers under the Name of *Corallina Vulgaris*. It grows on little Stones and Shells, or any other Matters at the Bottom of shallow Seas, and is often found hanging from Rocks that are dry at low Tides.

It is frequent on our own Coasts, and what we use is in general of our own Produce, though there is some of it brought from *France* and *Holland*. It is to be chosen fresh, of a strong Smell, and greenish or reddish Colour. The White tho' it look the cleanest is least to be valued, as it has probably acquired that Colour by lying on the Shores torn from its Roots, and has lost its Virtue in the bleaching.

Coralline distill'd by the Retort yields first a moderate Portion of a whitish Phlegm, like that of Coral, but of a rank fishy Smell, after this a volatile urinous Spirit comes over in Quantity almost equal to half the Weight of the whole,

whole, and the Remainder in the Retort yields by Lixivation a very large Quantity of a fix'd Salt not solely alkaline, but with some Mixture of the *Sal Salsus*.

The Ancients have said many great things of the Virtues of Coralline, they commend it against Infarctions of the Viscera, or Collections of the Humours in any other Part, and for easing the Pain of the Gout. At present we use it only against Worms, a Virtue they seem to have known nothing of its possessing. It is given from ten Grains to half a Dram for a Dose, and generally is mix'd with Wormseed, Salt of Steel, and other of the known Anthelminthicks, so that one way or other a Cure is generally effected, tho' perhaps it would not be easy to prove what Share the Coralline has in it.

C H A P T E R III.

SPONGIA,
Spunge.

SPUNGE is a Plant of so very singular a Structure, that many Authors have supposed it not merely a Vegetable, but of an intermediate Nature between that and the animal Kind, and have ranked it among the Number of an imaginary Race of Beings which they call *Zoophytes*. Spunge however is a genuine Plant, nor is there in the Creation any such Class of Being as *Zoophytes*, or any Creature that is partly Plant, partly Animal.

We meet with Spunge in the Shops often in the whole Plant, sometimes only in Pieces of larger ones; in either Case it is of a perfectly irregular Figure, and is only to be distinguish'd by its Texture, which is cavernous like that of a Honeycomb; its Elasticity, which makes it after pressing into a very small Compass, immediately expand to its full Bulk again on taking away the Pressure, and by its Property of readily imbibing a very large Quantity of Water, and as readily parting with it again on squeezing.

It is met with in Masses, sometimes flat; sometimes roundish, and often as thick as long or broad. It is very tough and firm, extremely light when dry, and is easily cut with a Pair of Scissars; it has scarce any Smell, but is of a mawkish disagreeable Taste.

Spunge is to be chosen perfectly clean, and free from Stones within, or from a crustaceous and hard Matter without; of as pale a Colour as may be, and with small Holes, and such as is lightest. The greatest Part of the Spunge we use is brought from *Aleppo* and *Smyrna*. It grows in the *Archipelago* at considerable Depths, on the Rocks about some of the Islands there, and there are Multitudes of People who make a Trade of diving for it. It is common in the *Mediterranean* also, and in many other Seas, tho' in general browner or yellower, and not so fine as that of the *Archipelago*.

It grows in large Masses to Rocks and Stones, sometimes to large Shells, and is sometimes round, sometimes flat, sometimes hollow like a Funnel. It is one of the *Cryptogamiæ* of *Linnaeus*, one of the *Herbæ Marinæ* of *Tournefort*, and one of the *Herbæ imperfectæ* of Mr. Ray. It is described by all the Botanical Writers under the Name of *Spongia Marina Alba*, and *Spongia Globosa*, the white or round Spunge. Distill'd by a Retort it yields a large Quantity
of

of a white milky Phlegm of a fishy Smell, after this a large Portion of a urinous reddish Liquor, with a little of a dry, volatile, urinous Salt, and a thick brownish fætid Oil. The Remainder in the Retort yields only a small Portion of a lixivial Salt, and that not merely alkaline.

Sponge calcin'd to a Blackness and reduced to Powder, has been lately brought into great Use as a sweetner of the Blood and a Diuretic. Some have pretended even to cure Leprosies with it, and others have extoll'd it against the Bite of a mad Dog, but these are Virtues less certainly known of it.

In the larger and coarser Pieces of Sponge there are frequently found small Stones embedded in the Substance of the Matter, and yet more frequently a crustaceous Matter gather'd round the Surface of certain Parts of the Plants; both these Substances are call'd by the common Name of *Lapis Spongiæ*, the Sponge Stone, and both are recommended as Diuretics and Remedies against the Stone and Gravel.

VEGETABLE SUBSTANCES

Used in MEDICINE entire.

CLASS the SECOND,

F U N G I.

Of the Bodies of this Class there are kept only two.

1. The J E W S E A R S.

2. The A G A R I C.

C H A P T E R I.

AURICULÆ JUDÆ,
Jews Ears.

TH E *Fungus* called *Auriculæ Judæ* is tough and thin, of a rumpled Figure, which it has not wholly acquired in the drying, but which it has naturally while growing. It is from an Inch to two Inches in Length, and usually about two Thirds of its Length in Breadth. Its Diameter in Thickness taking the whole Congeries into the Measure, is nearly that of its Breadth; but its real Substance cut through in any Part and measured, is not more than a Sixth of an Inch. Its regular Figure is that of a flat and variously hollowed Cup; its Base is a broad and short Pedicle, and from this it gradually expands itself every Way, but that not evenly or regularly. Its Sides are undulated, and in many Places they run into the hollow, so as to represent

in it Ridges like those in the human Ear, which its broad and shallow Figure also give it a general Tendency to resemble, the Ridges that run in various Directions in it, dividing its naturally single Hollow into several irregular Cavities, some more, others less deep. Its Figure is however much lost in the drying, and there requires the Assistance of warm Water to expand it, in order to its being regularly seen. Its Substance is tough and like Leather; its Colour very dark, and of a mixt greyish, bluish, and black. It is very light when dry, and is of a disagreeable Smell, and nauseous Taste.

It is one of the *Pezizæ* of *Dillenius*, and is by him described under the Name of *Peziza Auriculam referens*, the Ear *Peziza*; by others it is called *Auricula Judæ*, and *Fungus Sambucinus*. It is to be chosen tough and well dried, not rotten or mouldy; and in detached Masses of the Breadth of a Half-crown Piece or a little more, and these appearing not to be Fragments of larger Masses but entire Plants. There is good Reason for this Caution, because our Druggists seldom have the true and genuine *Auricula Judæ* in their Shops; what they generally sell under its Name is a common stinking *Fungus* of a paler Colour, which they employ People to collect for them from the old Water Pipes about *Islington*. This is the *Fungus Membranaceus Expansus* of Authors, and is a much more disagreeable Medicine, if of equal Virtue, which is a Thing not certainly known: This *Fungus* grows to six or eight Inches in Diameter, and has nothing of the Cup, Shape, or of the Resemblance of an Ear. The other or true *Fungus Sambucinus* sometimes grows more spreading and irregular than as we have described it, but the more regular Masses of it are most easily distinguished to be genuine.

The true *Auricula Judæ* is much less common than the *Fungus* sold in its Place. It is rarely met with except upon Elder Trees, whence its Name *Sambucinus*. It generally grows on the lower Parts of the Trunks of those Trees, and especially in Places where they are decaying. It is not much used by Physicians, but is in great Repute among the common People, who cure themselves of sore Throats with a Decoction of it in Milk: It does not make a very pleasant Medicine this Way, but certainly an efficacious one.

CHAPTER II.

AGARICUS, *Agaric.*

AGARIC is a *Fungus* of the Number of those which grow on the Trunks of Trees not on the Ground. It is of an irregular Figure, usually more approaching to that of a Semicircle, than any other. We meet with it of three or four Inches in Length, and nearly as many in Breadth and Thickness. It is extremely light, and so soft that the Fingers make an Impression in it on squeezing; but it has so much Elasticity, that it immediately resumes its former Figure. It is externally of a pale yellowish white, being covered with a thin Skin of that Colour; when broken it is found to be of a perfect and fine white within, of a loose spongy Texture, of a disagreeable Smell, and of an extremely nauseous Taste.

It is one of the *Cryptogamia* of *Linnaeus*, and of the *Plantæ imperfectæ* of Mr. Ray. It is found on the Trunks of old Trees, particularly of the *Larix* or Larch Tree, where, if not taken off, it remains found and growing many Years. Agaric is to be chosen very light, of a fine white Colour, and such as is easily broken. It is brought to us from *Italy* and some Parts of the South of *France*: That is most esteemed which has grown on the Larch Tree; but the People who trade in it, don't tie themselves down to that of any Kind of Tree, but collect all they find.

Agaric distilled in a Retort yields a large Quantity of Phlegm, at first only of a disagreeable fungous Smell and Taste, but afterwards strongly urinous; after this there comes over a brownish Liquor yet more strongly impregnated with an urinous Salt, and after this a small Portion of a brown foetid Oil; and in the Course of the Distillation, a Quantity of an urinous Salt in a concreted Form will affix itself to the Sides of the Vessels. There is about two Scruples of this from as many Pounds of the Agaric. The Remainder in the Retort calcined in an open Fire, yields a small Quantity of a lixivial Salt merely of an alkaline Kind. The first Runnings of the Phlegm of Agaric, if tried nicely, shew some Tokens of a latent Acidity, but excepting this, nothing but alkaline Principles discover themselves on the Analysis.

Agaric was well known to the Ancients, and was much esteemed by them as a Purge; it operates however very slowly, and with great Pains in the Bowels; and if there were no other Objection to it, it ought indeed to be thrown out of the present Practice, were it only for the immoderate Quantity of it required as a Dose, and its abominable Taste. The Ancients corrected it with Ginger, Cloves, and other of the warm Aromatics, and sometimes with Sal Gem; but at best it is so much inferior to the other Cathartics in Use at this Time, that it is deservedly rejected from extemporaneous Prescription, and is only kept in the Shops as an Ingredient in some of the old Compositions.

PARTS of VEGETABLES

Used in M E D I C I N E.

CLASS the FIRST.

Herbs, the whole of which, except the Root, is used.

The vegetable Subjects of this Class are numerous: They are arranged here under the two Divisions, as they are more or less frequently used in Medicine. Those more frequently used are placed in the following Order.

- | | | |
|-------------------|--------------------|----------------------|
| 1. RUE. | 14. CARDUUS BENE- | 29. BETONY. |
| 2. SAVIN. | DICTUS. | 30. MARJORAM. |
| 3. PENNYROYAL. | 15. SPEARMINT. | 31. MARUM. |
| 4. MUGWORT. | 16. PEPPERMINT. | 32. FLUELLIN. |
| 5. CATMINT. | 17. HORSEMINT. | 33. MERCURY. |
| 6. FEVERFEW. | 18. BAUM. | 34. PELLITORY OF THE |
| 7. MOTHERWORT. | 19. GROUND IVY. | WALL. |
| 8. ORACH. | 20. HOARHOUND. | 35. ONION. |
| 9. CALAMINT. | 21. HYSSOP. | 36. WOOD SORREL. |
| 10. TANZY. | 22. HEDGE MUSTARD. | 37. MALLOWS. |
| 11. COMMON WORM- | 23. DRAGONS. | 38. MELILOT. |
| WOOD. | 24. THYME. | 39. SCURVYGRASS. |
| 12. ROMAN WORM- | 25. SCORDIUM. | 40. BROOKLIME. |
| WOOD. | 26. GERMANDER. | 41. WATER CRESS. |
| 13. SMALL CENTAU- | 27. GROUND PINE. | 42. CLIVERS. |
| RY. | 28. SAGE. | |

Those less frequently used are,

- | | | |
|-------------------|----------------------|-----------------|
| 1. HEDGE HYSSOP. | 7. BUCKBEAN. | 12. MANDRAKE. |
| 2. PURGING FLAX. | 8. BROOM. | 13. PIMPERNEL. |
| 3. SPURGE LAUREL. | 9. LIVERWORT. | 14. CRANESBILL. |
| 4. MEZEREON. | 10. SOUTHERNWOOD, | 15. MAIDENHAIR. |
| 5. DODDER. | 11. LAVENDER COTTON. | 16. CLARY. |
| 6. DWARF ELDER. | | |

CHAPTER I.

R U T A,
Rue.

RUE is one of the *Oxandria Monogynia* of *Linnaeus*, and of the *Herba flore tetrapetalo Anomalæ* of *Ray*. There are many Species of it, but only one of them is used with us in Medicine; this is the common Rue of our Gardens. The *Ruta Hortensis latifolia* of *C. Baubine*, and the *Ruta sativa* and *hortensis* of other Authors.

It is a shrubby Plant, growing to two or three Feet in Height, and much branched; the main Stem is hard, brown, and woody; the younger Shoots are of a pale green, somewhat succulent and tender. The Leaves stand alternately on the Stalks, at an Inch or two Distance from one another. They are smooth, fleshy, and of a pale green Colour, not serrated at the Edges, nor with any visible Ribs on them. They are of the compound Kind, each consisting of three or four Pair of a Sort of *Alæ*, growing from the main Pedicle, and each of these *Alæ* supporting or dividing into a Number of small Pinules of an oblong, but very irregular Form. The Tops of the Branches are ornamented with a Number of moderately large Flowers. They are of a light yellow Colour, and are succeeded by Seed-Vessels of an irregular Figure, containing four Cells, and divided from the upper Part a little Way into four Lobes. The whole Plant has a very strong and disagreeable Smell and an acrid Taste.

It is not a Native of *England*, but is cultivated very commonly in our Gardens. A Pound of green Rue distilled in a Retort, yields first about three Ounces and a half of a limpid and colourless Water, smelling somewhat of the Plant, but of an insipid Taste, except that a faint saline and acid Flavour just distinguish themselves; after this comes over a Liquor still limpid and colourless, in Quantity about ten Ounces; this is more saline and less acid in the first Runnings than the last; as it continues to run, it becomes more and more acid, and at the last austere. After this there come over about three Drams of a brown empyreumatic Liquor highly impregnated with a volatile alkaline Salt, and about three Drams of an Oil partly thin and fluid, partly thick. The Remainder in the Retort, calcined in an open Fire and lixiviated, yields about a Dram of a fixed alkaline Salt.

Rue has always been in great Esteem as an Alexipharmic and Cephalic; it is good in all nervous Diseases, and in Fevers, the Small Pox, and Measles; and eminently so in hysteric Cases: It is given by many to strengthen the Stomach, and prevent the Return of habitual Cholics. It has been also given in Pleurifies and Peripneumonies, and against the Bites of venomous Animals. There used to be a Conserve and a simple Water of Rue kept in the Shops, but the former has been found very unpleasant, and the latter to contain scarce any Thing of the Virtues of the Plant; and both have therefore been rejected. The dried Herb only is now kept to be given in Infusion occasionally, and to be in Readiness as an Ingredient in many of the officinal Compositions.

CHAPTER

CHAPTER II.

S A B I N A,

Savin.

SAVIN is one of the *Dioecia Monadelphica* of *Linnaeus*, and of the *frutices bacciferae* of *Ray*. It is described by all the botanical Writers under the Name of *Sabina vulgaris*, and *Sabina Tamarisci folio*. It is a small Shrub, the Stem is woody, and as thick often as a Man's Arm. The Branches are very numerous, and very tough; the Trunk and larger Branches are covered with a brown Bark, the young Shoots are green; the whole Shrub seems from a little Distance from the Bottom wholly divided into these. The Leaves are small and slender, much resembling those of the Tamarisc or Cypress, but thicker than either; terminating in sharp but weak Prickles, and of a deep green Colour on the older Branches, of a very pale one of the young Shoots. The Wood of the larger Branches is very solid and firm, and of a fine Grain: The whole Shrub, but particularly the Leaves, are of an extremely peculiar Smell, very strong, and very disagreeable.

A Pound of fresh gathered Tops of Savin, distilled in a Retort, yields first about three Ounces of a limpid Liquor, smelling very strongly of the Plant, and of the Taste of it, but faintly, and with an Admixture of somewhat acid. After this there comes over a Liquor still limpid, but of a more strongly acid Taste, with somewhat saline and urinous in it, in Quantity about ten Ounces. There then comes over a small Quantity, about three Drams, of a Liquor of a brownish Colour and empyreumatic Smell, tasting strongly acid and urinous together; and after this about the same Quantity of a yet darker coloured Liquor, strongly impregnated with a volatile Alkali only; and finally, about two Drams of a thick and extremely foetid Oil. The Remainder in the Retort, calcined and lixiviated, yields about fifty Grains of a fixed alkaline Salt.

Savin is famous as an Hysteric and Attenuant: It promotes the Discharges by Urine, but its great Effect is the promoting the Menfes, which it will do more forcibly than safely, if not under very careful Management. It is kept in the Shops as an Ingredient in many Compositions, but is very rarely used in extemporaneous Prescription.

CHAPTER III.

P U L E G I U M,

Pennyroyal.

PENNYROYAL is one of the *Didynamia Gymnospermia* of *Linnaeus*, and one of the *Herbae Verticillatae* of *Ray*. It is described by botanical Writers under the Name of *Pulegium*, *Pulegium Vulgare*, and *Pulegium Regium*.

It is a procumbent Plant, the upper Part of the Stalks only rising erect. The Stalks are square, succulent, and not very strong; in their lower Part, where they trail upon the Ground, they take Root at every Joint; that Part that is erect is usually

usually six or eight Inches long, seldom more in its natural State ; but Culture will bring it to a Foot or two. The Leaves stand in Pairs opposite to each other, they are oblong and broad, of a pale green Colour when young, darker when old, notched about the Edges, and of a very strong Smell and acrid Taste. The Flowers are of the labiated Kind ; they stand in thick Clusters round the Stalk at the several Joints, and are of a pale red Colour : They are placed in oblong, tubular, and striated Cups, and are succeeded each by four Seeds, to which those Cups serve as Capsules. The Roots are small and fibrous ; the Plant is a native of *England*, and is very abundant in many Parts of the Kingdom by the Side of Ponds and Ditches, and in other wet Places. What is sold in our Markets is usually cultivated in the Gardens about *London*, but it is best to have that which grows wild if it can be got, as it has always much more Virtue than the cultivated Kind.

A Pound of fresh gathered wild Pennyroyal distilled in a Retort, yields first three Ounces and a half of a Liquor somewhat turbid and whitish, and containing some small Portion of the Oil of the Plant ; this smells and tastes strongly of the Herb, and has only a very faint Acidity discoverable in it. After this there comes over a limpid Liquor, in Quantity near ten Ounces ; this tastes more acid and somewhat austere ; after this comes over about three Drams of a Liquor still colourless and limpid, but of a less acid and more austere and saline Taste ; after this comes over about five Drams of a brownish and empyreumatic Liquor, very little acid or austere, but strongly impregnated with a volatile alkaline Salt ; then about three Drams of Oil partly thin and fluid, partly thick. The Remainder in the Retort, calcined and lixiviated, yields about a Dram of a fixed alkaline Salt.

Pennyroyal is one of the first Plants in Esteem in the present Practice, as well as in the former Ages as a Uterine and Attenuant. It promotes the Menfes, and forwards Delivery. It is good in Flatulencies and in Suppressions of Urine, and is by many recommended very strongly in Dropsies, Jaundices, and many other of the chronic Distempers. It communicates its Virtue very readily to Water in Infusion, and its simple Water drawn by the Alembic has perhaps more Virtue than any other that is kept in the Shops. Its essential Oil is sometimes used in the same Intentions with the Water, but more rarely.

CHAPTER IV.

ARTEMESIA, *Mugwort.*

MUGWORT is of the Class of the *Syngenesia Polygamia superflua* of *Linnaeus*, and of the *Herbæ Corymbifera Floribus non radiatis* of *Ray*. There are several Species of this Genus, but only one of them is used in Medicine ; this is the *Artemesia Vulgaris* of *J. Baubine*, the *Artemesia Rubra* of *Tabernamontanus*, the *Artemesia Materherbarum* of *Lobel*, and the *Artemesia Vulgaris major caule & flore purpurascens* of *C. Baubine*.

This Plant grows to three, four or more Feet in Height, and in its general Appearance somewhat resembles the common Wormwood, but is a much handsomer Plant. The Stalk is of the Thickness of a Man's Finger, of a roundish

roundish Figure, striated on the Surface, very firm and rigid, but hollow, and containing a white Pith, in Colour of a greenish grey, but more or less tinged with Purple, and almost entirely Purple in some of the Plants of it. It is cover'd with a short and light downy Matter, and is almost from the very Bottom furnish'd with Branches. These are very numerous toward the top, and are striated like the main Stalk; the Leaves stand alternately on the Stalks at small Distances from one another; they are somewhat like those of the common Wormwood, cut and divided into Segments down to the middle Rib, and of a pale green Colour on the upper Side, and of a white underneath: the Flowers stand in long Series at the tops of the Stalks forming a Kind of Spikes; they are small and of the flosculous Kind, or composed of a Number of small oblong purplish Flowers, divided into five Segments at the Edge; each of these stands on an Embryo Seed, and the whole Cluster of them that forms the compound Flower, are contain'd in one Cup of a squammos Kind: but beside the Embryos cover'd by the Flowers, there are other naked ones, which terminate in a bifid Capillament; these as well as the others ripen into small Seeds like those of Wormwood, and not wing'd with Down. The Flowers stand thicker than those of Wormwood, they have a grateful and aromatic Smell, the Root is as thick as a Man's Finger, solid, firm and fleshy, and creeps under the Surface of the Ground; it is of a sweetish and aromatic Taste.

The Plant grows wild in uncultivated Places by Way Sides, and under dry Banks in all Parts of the Kingdom.

A simple Water distill'd from Mugwort is of no disagreeable Taste, and an Infusion of it in the manner of Tea not made too strong, is a pleasant as well as a very good Medicine in many of the Complaints of the Women. A Pound of this Plant fresh gather'd, distill'd in a Retort, yields between twelve and thirteen Ounces of a Phlegm at first of an herbaceous Taste with a little Acidity, but toward the last Runnings very acid and somewhat austere; after this comes near an Ounce of a reddish Liquor of an empyreumatic Smell, and of an austere and acid Taste, then between two and three Drams of a reddish Liquor sated with an alkaline urinous Salt, and after this, about three Drams of blackish Oil as thick as Lard, and a few Grains of a volatile Salt in a concreted Form. The Remainder in the Retort, calcined and lixiviated, yields about a Scruple or little more of a pure alkaline Salt.

Mugwort has long been famous as an Uterine, an Antispasmodic, and a Medicine of great Power in all Diseases of the Nerves. It is evidently aperient and abstergent. It promotes the Menfes, and cleanses the Womb. It is given in Decoction, or much more agreeably in a light Infusion in the Manner of Tea. The Midwives use it also externally, boiling it and applying it to the Belly, to promote the menstrual Discharges, or the Expulsion of the Secundines. It is by some much recommended as a Cure for the *Sciatica*; and is to be taken for this Purpose, either in Powder, two Drams for a Dose, or the expressed Juice drank an Ounce or two twice a Day for some Months. There used among other Preparations of this Plant to be a distilled Water, a Syrup, a Conserve, and an Extract kept in the Shops, and sometimes its fixed Salt made as that of Wormwood. But at present these are all disused, and the dried Herb only is retained there, as an Ingredient in some of the compound Waters.

CHAPTER V.

NEPETA,
Catmint.

THIS is one of the *Didynamia Gymnospermia* of *Linneus*, and one of the *Herbæ Verticillatæ* of *Ray*. It is the *Nepeta major Vulgaris* of *Parkinson*, the *Mentha Cataria* of *J. Baubine*, *Mentha Cataria vulgaris* & *major* of *C. Baubine*. It is a tall and robust Plant: The Stalks are square, moderately thick, hollow within, and hoary on the Surface; not very easily broken, and of a whitish green Colour. They grow to three or four Feet in Height, the Leaves are large and of the Shape of those of the ordinary Nettle, but less pointed. They stand by Pairs at the Joints of the Stalks, and are notched round the Edges, and of a whitish Colour, cover'd with a soft Down, of a strong and disagreeable Smell, and of an acrid Taste. The Flowers stand in thick Tufts at the Tops of the Stalks; they are of the labiated Kind; they stand in large striated greyish Cups which remain on the Plant after they are fallen off, and serve as Capsules to the Seeds, each Cup containing four of them.

A Pound of fresh gather'd Catmint distill'd in a Retort, yields first about three Ounces of a limpid and colourless Liquor, of a Smell very strong and like that of the Plant, and with a faint Acidity in the Taste: After this come over about ten Ounces of a Liquor limpid and colourless in the first Runnings, but afterwards brownish; this is acid at first, but at last very austere and saline. After this comes over about half an Ounce of a brown empyreumatic Liquor, strongly impregnated with a volatile alkaline Salt, with a small Quantity of the same Kind of Salt in a concreted Form; and finally about three Drams of Oil partly fluid partly thick. The Remainder in the Retort calcined with an open Fire and lixiviated yields more than a Dram of a fix'd alkaline Salt.

Catmint has been greatly recommended as an uterine and nervous Medicine. The People in the Country still frequently use it in the Form of an Infusion for these Purposes, but in the Shops it is only kept as an Ingredient in some Compositions.

CHAPTER VI.

MATRICARIA,
Feverfew.

MATRICARIA is one of the *Syngenesia Polygamia superflua* of *Linneus*, and one of the *Herbæ Corymbiferae* of *Ray*. There are several Species of it, but the only one used with us in Medicine is the common Kind. The *Matricaria Vulgaris* of *C. Baubine*, the *Matricaria vulgo minus Parthenium* of *J. Baubine*, and the *Parthenium* of *Gerard*. It is call'd by others *Amarenum Galeni*, *Artemisia tenuifolia* and *Crispula*.

It grows to two Feet or more in Height, the Stalks are firm and moderately thick, but they have a Hollow within, fill'd with a spongy Pith; they are round striated, and are not at all hairy. The Leaves stand singly and alternately at the Joints of the Stalks. They are moderately large and beautifully divided, so as to represent a sort of pinnated Leaves, form'd of yet smaller pinnated *Alæ*; they are notched at the Edges, and are of a dark green Colour, a disagreeable Smell, and a bitterish Taste. The Flowers stand at the Top of the Stalks and Branches, and are of the radiated Kind, resembling those of the larger Daisy, but that they are much smaller, not exceeding the third of an Inch, or a little more in Diameter. The middle Part, or Disk, is yellow, the Rays white. The Cup is scaly and of a pale green Colour, and the whole Cluster of Flowers open upon the Plant at once and form a Kind of Umbell. The Disk is compos'd of fistular Floscules, and when the Semi-Floscules that form the Verge are fallen, the Disk swells and enlarges, and contains a great number of oblong Seeds with no downy Matter affix'd to them.

A Pound of fresh gather'd Feverfew distill'd in a Retort yields first between four and five Ounces of a clear and colourless Phlegm, smelling strongly of the Plant, and of a weakly, saline and subacid Taste; after this there come over near nine Ounces of a Liquor still clear and colourless, but of a more acid Taste in the first Runnings, and in the last very austere: After this about half an Ounce of a brown empyreumatic Liquor, highly impregnated with a volatile alkaline Salt, and near a Scruple of the same volatile alkaline Salt in a concreted Form; finally there rise about three Drams of a thick Oil. The Remainder in the Retort, calcined and lixiviated, yields near two Drams of a fix'd alkaline Salt.

The flowery Tops of the Plant distill'd in the common Way by the Alembic, yield a large Quantity of an essential Oil, of a very peculiar Smell.

Matricaria has always been allowed one of the first Places among the hysteric and uterine Plants. It has been prescribed in Powder from a Scruple to half a Dram for a Dose, but the much better Way is in a slight Infusion made in the manner of Tea.

Taken in this easy manner for a continuance of Time, it will bring the Menfes, though subject to be interrupted and irregular, to their true Period, and will remove a number of Complaints, the natural Consequences of such an Irregularity. It is also an agreeable Carminative and Bitter. It strengthens the Stomach, and disperses Flatulencies, and the express'd Juice is said to kill Worms in the Bowels.

Hoffman gives it great Praises as a Febrifuge. The dry'd Flowers are indeed much of the same Nature with those of Camomile, and seem very well calculated to answer all the Purposes of them. It is observed of the Bees that the Smell of this Plant, as well as of the *Cotula Fætida*, and some others of the same Class, are particularly disagreeable to them. We used to keep a simple Water and Syrup of Feverfew in the Shops, but at present they are wholly disused; the dry'd Herb only is kept there to be ready for Fomentations, and sometimes as an Ingredient in Clysters.

CHAPTER VII.

CARDIACA,

Motherwort.

CARDIACA is one of the *Didynamia Gymnospermia* of *Linnaeus*, and of the *Herbæ Verticillatæ* of *Ray*. It is described by *C. Baubine* under the Name of *Marrubium Cardaica dictum*, and by the other botanical Writers under that of *Cardiaca*, and those of *Lycopsis*, *Lycopus*, *Branca Lupina* and *Agripalma*; the *Lycopsis* and *Lycopus* are however the last to be chosen to distinguish it by, as they have been given also to other Plants.

The *Cardiaca* grows to two or three Feet high: The Stalks are thick, square, firm and hard, and of a dusky greenish, sometimes of a reddish Colour. The Leaves stand in Pairs, they have long Pedicles and are somewhat hairy, but 'tis so little that it is scarce distinguishable to the Eye. Those on the lower Part of the Stalk are almost roundish, but divided into three Segments, and of a pale green. Those on the upper Part are of a deep blackish green, and have the same threefold Division, but they are narrower, and the middle Portion of the Leaf runs out into a very long Point. They are deeply and sharply notched at the Edges; those near the Top are finally simple long Leaves, only with a large Notch or Indenture on each Side near the Base, just expressing the Vestige of the triple Division of the others.

The Cups of the Flowers terminate in a sort of Spines, they grow in Clusters round the Stalk at the upper Joints, the Flowers are of the labiated Kind, tolerably large and whitish, with a Tinge of purple; they are hairy on the Outside, and the upper Lip is much longer than the lower one, which last is divided into three Segments. The Seeds are oblong and of an angular Figure, and are placed four in the Bottom of every Cup, which serves them by way of a Capsula when the Flower is fallen. The Root is composed of a number of large Fibres, and spreads a great way under the Ground so as to propagate the Plant very briskly; the whole Herb has a strong and disagreeable Smell, and a bitterish Taste. Chymically analysed, it yields in Distillation by the Retort, first a pure limpid and colourless Phlegm, of a somewhat acid Taste, and of an herbaceous Smell; after this comes a smaller Quantity of a yet limped Phlegm, of a much more strongly acid Taste, and toward the last running very austere: After this there rises a reddish Liquor, highly impregnated with a volatile alkaline Salt, and a moderate Portion of Oil. The Remainder in the Retort, calcined in an open Fire and lixiviated, yields a fix'd alkaline Salt in considerable Quantity, not less than a Dram and half from a Pound of the Herb.

The Name *Cardiaca*, which indeed it is not easy to account for the giving to this Plant, has led many into an Opinion of its being a Cordial; but Experience does not shew any such thing. Its common Use in the Shops is as an Ingredient in some of the compound Waters, intended against hysteric Complaints, and the Country People frequently make an Infusion of it in the manner of Tea, for the same Purposes. It is also said to be good in Flatulencies and Cholics, and to give great Relief in epileptic Cases, and to destroy Worms. It promotes

motes Urine and the Menfes, but its Power this way is greatly inferior to that of Pennyroyal.

CHAPTER VIII.

ATRIPLEX,
Orach.

ORACH is one of the *Hexandria Digynia* of *Linnæus*, and one of the *Herbæ Flore Imperfectæ sive Stamineæ* of Mr. Ray. It is a Genus of which there are many Species, two of which, the white and the red Orach, cultivated in Gardens, were once received among the number of officinal Simples, but they are now wholly rejected; and the only one retained is a wild Species known among us, from its ill Smell, by the Name of stinking Orach, and described by C. Baubine and others, under the Names of *Atriplex Fœtida*, *Atriplex Olida*, and *Vulvaria*. This is one of the *Pentandria Digynia*.

ATRIPLEX OLIDA,
Stinking Orach.

It is a low and unhandsome Plant: Its Stalks grow to ten or twelve Inches in Length, but they rarely stand erect; usually they are wholly upon the ground, and almost always are more or less procumbent. They are of a roundish Figure, striated and of a greyish green Colour. They are divided almost from the Bottom into a number of Ramifications, on which are placed alternately small Leaves broad and short, and of an almost roundish Figure, but that they terminate in a Point. They are of a pale blueish green Colour, and these as well as the Stalks are sprinkled over with a greyish Powder, form'd of large Globules of a very disagreeable Smell, especially if rubb'd between the Fingers. The Flowers are small and stand in Clusters on the Tops of the Stalks and Branches; they are composed of greenish Cups divided into five Segments, and furnished with a number of Stamina, but without Petals: These surround a Pistil, from which is afterwards form'd a single, flat, rounded and blackish Seed of a glossy Surface, and contain'd in the Cup which remains on the Plant to sustain it. The Root is small and fibrous. This Plant grows in abundance in uncultivated Places, in all Parts of the Kingdom, and is a very good, though not very pleasant Medicine. A Pound of fresh gather'd stinking Orach, distill'd in a Retort, yields between nine and ten Ounces of a Phlegm which is at first colourless, and afterwards yellowish, and is of a saltish lixivious Taste, evidently carrying the Marks of an urinous Alkali in it. After this there come over near four Ounces of a Phlegm at first yellowish, but afterwards reddish, tasting not only saltish and urinous, but with some Acidity in it: Then a small Quantity of a brownish Liquor, containing only a volatile urinous Salt, as appears both to the Taste and Smell, and by Experiments: Then about three Drams of a concreted blackish Oil, and near two Scruples of a concreted volatile Salt. The Remainder in the Retort, calcin'd and lixiviated, yields about three Drams of a fix'd alkaline Salt.

This Analysis leaves us no room to doubt, but that the Authors who speak of the stinking Orach as a very great Medicine, have a great deal of Truth on their Side. The very Smell of it will sometimes recover Patients out of
hysteria

hysteric Fits, when all the common means fail, and a Decoction of the Plant is an excellent Medicine in the same Cases. A Decoction of it made very strong and given as a Glyster in hysteric Cases is also excellent, and a Conserve of the Leaves, which is one of the best Forms it can be taken in, has the same Virtues in a very high Degree alone, and is an excellent Medium to bring other Medicines into the Form of an Electuary for the same Purposes.

A Syrup of it is sometimes kept in the Shops, and is not without its Merit; but it is a Form in which a great Part of the Virtue of the Herb is lost.

CHAPTER IX.

CALAMINTHA,

Calamint.

CALAMINT is of the number of the *Didynamia Gymnospermia* of *Linnaeus*, and of the *Herbæ Verticillatæ* of *Ray*. There are several Species of it, but only one is used in Medicine, is that call'd by us, though somewhat improperly, the common Kind; the smaller leav'd Kind being much more frequent. This is the *Calamintha Vulgaris flore magno* of *J. Baubine*, the *Calamintha Montana* of *Dodonæus*, and the *Calamintha Vulgaris* of others.

It is a very pretty Plant: It grows to six or eight Inches high, sometimes to a Foot or a little more. The Stalks are slender, but they are very firm and woody: They are square and very much branched. The Leaves stand in Pairs two at every Joint of the Stalk opposite to each other; they are about an Inch in Diameter, of a roundish Figure and obtusely pointed, slightly serrated at the Edges, of a dusky green Colour, somewhat hairy and of a very aromatic Smell and Taste. The Flowers are of the labiated Kind, and stand in little Clusters at the Joints of the Stalk, from the Middle to the Top; the upper Lip of the Flower stands erect and is roundish and bifid, the under one is divided into three Parts. They are of a pale purplish Colour, often almost white, and are of a very pleasant Smell. The Seeds are small, smooth and of a blackish Colour, and roundish Shape; four of them succeed to every Flower, and they are lodg'd in the Cup which remains and becomes a Kind of a Capsule for them. The Root is fibrous and whitish.

This Plant loves dry and somewhat shady Places: It grows very abundantly in some Parts of *England* under Hedges, by Road Sides in dry Places.

There is another Species of it however, as already observed, that is much more frequent with us, and that is usually brought to Market in the Place of this. This is very like the genuine medicinal Kind in its manner of Growth, but the Stalks are thicker and more woody, the Leaves much smaller and of a paler Colour, and the whole Plant has a very strong Smell like that of Penny-royal. It is easily distinguish'd by these Characters, but the Sophistication is of less Consequence as the Virtues of both are much the same, and perhaps the latter possesses them in a higher Degree than the other, but it is a less pleasant Herb to the Patient. This latter Species is described by *J. Baubine* under the Name of *Calamintha odore pulegii flore minore*, and by *C. Baubine* under the Name of *Calamintha pulegii odore*. Its Smell alone is indeed a very sufficient Characteristic.

Characteristic. It grows almost every where by Road Sides, and in dry and barren Grounds, especially hilly ones.

A simple Water of the officinal Calamint is a very pleasant and good one; in Decoction it loses much of its Virtue and becomes very disagreeable to the Taste, but in a light Infusion made in the manner of Tea it is very pleasant.

Fresh Calamint distill'd in a Retort yields first a small Portion of Phlegm colourless and limpid, but smelling and tasting a little of the Herb; after this comes a larger Quantity of a Phlegm of the same Kind also, but of a somewhat acid Taste; after this a reddish Liquor in small Quantity, partly acid and partly impregnated with a volatile urinous Salt; and finally, a large Portion of Oil, not less than three Drams and a half from the Pound. The Remainder in the Retort, calcin'd in an open Fire and lixiviated, yields a small Portion of a fix'd alkaline Salt.

Calamint is attenuating and aperient: It powerfully dissolves viscid Humors, and by this means promotes an Appetite, and assists Digestion, and dispels Flatulencies. It promotes Urine and the Menfes, and is good in all Diseases of the Breast arising from a tough Phlegm; for all these Purposes there is no Method of taking it so good as the drinking an Infusion made of it in the manner of common Tea.

Externally it is attenuant, discutient and resolvent. It is best used in Form of a Fomentation on these Occasions. Paralytic Limbs have been sometimes restor'd by using a strong Decoction of it in this manner. The essential Oil distill'd by the Alembic in the common Way is an excellent Carminative, and has all the Virtues of that of Pennyroyal without its nauseous Taste: It is rarely used however, and the dry'd Herb is kept in the Shops principally as an Ingredient in some of the compound Waters.

CHAPTER X.

TANACETUM,

Tanzy.

TANZY is one of the *Syngenesia Polygamia æqualis* of *Linnaeus*, and one of the *Herbæ Corymbiferae flore non radiato* of *Ray*. It is described by all the botanical Writers under the Name of *Tanacetum*, *Tanacetum vulgare*, and *Tanacetum flore luteo nudo*. It is a tall, robust and regularly growing Plant; its Stalks are large, round, and striated on the Surface, hollow within, and of a brown or reddish Colour toward the Bottom, but more green near the Tops. The Leaves stand alternately on them at an Inch or two Distance, they are large and very finely divided, composed of *Alæ* as it were, beset with other smaller Leaves, and these all deeply jagged at the Edges: they are of a dusky green Colour, and of a very strong, but not disagreeable Smell. The Flowers grow at the Tops of the Branches, and are disposed in a Sort of umbelliferous Form; they are moderately large, yellow, and of the flosculous Kind: all the Floscules that serve to make up the whole Flower, being contain'd in the same squamous Cup. The Seed is small and oblong, the Root long and moderately thick, the whole Plant is of a bitterish and acrid Taste. A Pound of fresh Tanzy, distill'd in a Retort, yields first about four Ounces of a limpid Phlegm,

Phlegm, smelling strongly of the Plant, but almost insipid to the Taste, except that it has an obscure Acidity. After this there come over between eight and nine Ounces of a Liquor still limpid, but of a much more strongly acid Taste, and toward the last Runnings very austere. After this come over about six Drams of a very brown empyreumatic Liquor, highly impregnated with a volatile alkaline Salt, but with some Remains of the Acidity yet among it; and finally there rises about half an Ounce of Oil. The Remainder in the Retort, calcined and lixiviated, yields near a Dram of a fixed alkaline Salt.

Tanzy has been greatly celebrated as an Uterine, a Vulnerary and Diuretic. It is recommended in Suppressions of the Menfes, and in Cases of the Gravel and other nephritic Complaints. It is said to destroy Worms also, and is much extolled by some against Flatulencies, but at present it is more used at Table than in the Shops. There used to be a simple Water of it kept in the Shops, but it was found to retain very little of the Virtues of the Plant, and has therefore been rejected.

CHAPTER XI.

ABSYNTHIUM,
Wormwood.

WORMWOOD is of the Class of the *Syngenesia Polygamia Superflua* of *Linnaeus*, and of that of the *Herbæ Corymbiferae Floribus non radiatis* of *Mr. Ray*.

There are two Species of this Plant used in Medicine; the one called in the Shops the Common, the other the *Roman Wormwood*. The first is the *Absynthium Majus Vulgare* of *J. Baubine*, and other of the botanical Authors, the *Absynthium latifolium* of *Dodonæus*.

The other is the *Absynthium ponticum tenuifolium incanum* of *C. Baubine*. The *Absynthium ponticum vulgare folio inferius Albo* of *J. Baubine*, and the *Absynthium Romanum vulgare* of *Parkinson*.

ABSYNTHIUM VULGARE,
Common Wormwood.

The common Wormwood is a robust and tall Plant, it grows to three Feet or more in Height; its Stalk is round but striated, of a firm woody Texture, but with a little Hollow in which there is some Pith within. It is of a whitish Colour, and is full of Branches, especially toward the Top. The Leaves are placed alternately and at Distances on these Stalks; they are supported by moderately long Pedicles, and are very deeply divided so as to seem composed of many oblong Parts. They are soft to the Touch, of a whitish Colour, of a strong Smell, and of a bitter Taste. The Tops of all the Branches are loaded with Flowers; they stand in long Series, and grow from the *Ælæ* of little Leaves; they are placed on slender Pedicles; they hang pendulous, and are a kind of little Globes or Spheres; each of these is composed of a Number of small floscular Flowers which are hollow, short and divided into five Segments at the Edge; they are of a yellowish Colour; they all arise from one common Cup, and that is of the squamous Kind;

each Flower is placed on its Embryo, which when it is fallen ripens into a naked and small Seed, not winged with Down. The Root is thick branched and fibrous, of a woody Texture, and of an aromatic Taste, without the Nauseousness of the Herb.

It grows very frequently with us in uncultivated Places, but the considerable Demand for it in *London*, encourages the People who trade in medicinal Herbs to cultivate it in their Gardens, and our Markets are principally supplied from thence.

A simple Water distilled from the common Wormwood is of a very disagreeable Flavour; a small Quantity of it in a distilled spirituous Water, gives it however an aromatic Taste, and a Flavour far from disagreeable. An Infusion of it is so bitter as scarce to be born. The whole Plant when in Flower, chemically analysed, yields by Distillation in the Retort, first a moderate Portion of a colourless and limpid Phlegm with the Smell and Flavour of the Plant. The first Runnings of this are subacid, the next very strongly acid, and the last not only strongly acid, but evidently containing an alkaline volatile Salt also. The whole of this Liquor amounts to more than half the Weight of the Plant, and has some essential Oil swimming on it: After this comes over a small Quantity of a Liquor of a reddish Colour, and of an empyreumatic Smell, evidently abounding with a volatile alkaline Salt; then a few Grains of a volatile Salt in a concreted Form, and a large Quantity of a foetid Oil partly thick, partly thin and fluid. The Remainder in the Retort, calcined in an open Fire and lixiviated, yields a large Quantity of a fixed alkaline Salt, more than two Drams from every Pound of the Herb first used.

It is an Observation of some Consequence, that the Leaves of this Plant analysed in this Manner, before the Flowers are ripe, yield a much larger Portion of volatile Salt, so great a Quantity indeed as a Dram from the Pound; whereas the whole Plant thus distilled, hardly yields five Grains from that Quantity. The Tops and ripening Seeds of the Plant indeed yield a much larger Quantity of Oil and of Acid. This may serve as a general Hint to us, that when we expect the Virtues lodged in the Oil of a Plant, it is our Business to use the flowery Tops: But when those depending on a volatile Salt, that the Leaves gathered before the ripening of the Flowers are much more proper.

Common Wormwood is an Attenuant and Stomachic; it is good in all Obstructions and Weaknesses of the *Viscera*; it restores the Appetite, and strengthens the Stomach. It is also a good Medicine against Worms, which it destroys partly by its Bitterness, and partly by attenuating and dissolving that viscid Matter in the Intestines, in which they breed. It is good also in Jaundices, and in most of the chronic Disorders. Care is to be taken however, not to give Wormwood in too tense a State of the Fibres, or in Inflammations, in either of which Cases it will add to the Evil, instead of removing it. Wormwood would be a Medicine in much more general Use, were it not for its intolerable bitter Taste, which renders it scarce possible to be taken in any Form. The Tops and Leaves powdered are sometimes given in Boluses with great Success against Worms. The Dose is from one Scruple to two. An Infusion in Water is perhaps better calculated to answer many of the

the Intentions in which Wormwood is to be given than any other Form: But who can swallow such an Infusion? A slight Tincture of the dried Leaves in Wine may be made by infusing them a few Hours in that Liquor; and this proves a good Stomachic. It is also a Custom with us to give a Bitterness to Malt Liquors with it for the same Purpose.

We have been used to hear of an Essence of Wormwood, a distilled Water of the simple Kind, a Syrup, an Extract, and a fixed Salt, but at present the Oil and the fixed Salt are the only Preparations heard of.

OLEUM ABSYNTHII,

Oil of Wormwood.

Take of the Tops of common Wormwood gathered in full Flower ten Pounds; of Water fifteen or twenty Gallons; distill off the Water in a common Alembic with its Refrigeratory, so long as any Oil comes over with it; remove the Vessel and separate the Oil from the Water for Use. The Water is properly an *Aqua Absynthii Simplex*, but it is never used. The Oil is intensely bitter, and given internally has the Virtue of the Plant it is obtained from; but it is rarely used in that Manner.

It is used externally, by applying a Piece of Cotton dipped in it to the Belly, and is said thus to destroy Worms in the Intestines.

SAL ABSYNTHII.

Salt of Wormwood.

Take a Quantity of Wormwood gathered while in its Prime and just dried so much that it will burn; set Fire to it, and reduce it to Ashes; then put those Ashes into an Iron Pot, and set them over a good Fire, stirring them up from Time to Time, till on being turned up, they cease to take Fire and sparkle. When this is over, they are a grey dead Mass, and the Oil is evaporated: Throw them into a large Vessel of Water, and boil them a few Minutes. Let the Liquor settle and filter it through Paper; then set it over the Fire to evaporate to a Dryness, and the fixed Salt of Wormwood will remain at the Bottom of the Vessels. This Salt will be brown, but if it be desired to have it perfectly white, let it be dissolved in Water, and the Liquor evaporated again, and this repeated afterwards if necessary. By this Means it will be more pure, but it will be more divested of the peculiar Virtues of the Plant. Those indeed who wish to have as much of those Virtues as may be in it, had better make it from the Ashes of Wormwood calcined in a close Vessel. The Salt produced from these is brown and foul, and is not merely alkaline, but has something of the *Sal Salsus* Kind in it, and some Portion even of the Oil of the Plant.

This Salt is a very famous Febrifuge and Stomachic; the usual Way of giving it, is dissolved in Juice of Lemons; in which State, mixed with other Ingredient into the Form of a Draught, it is one of the most general Medicines we have. Among the other good Effects of these Draughts, that of stopping Vomiting is not the least, and is an Effect that when properly given they seldom fail of.

CHAPTER XII.

ABSINTHIUM ROMANUM,
Roman Wormwood.

THIS is a very beautiful Plant extremely different from the common Wormwood in its external Appearance, and in its Taste. It grows to about two Feet or a little more in Height; and naturally grows, not in single Plants, but in large Tufts or Clusters. The Stalks are slender but very firm, tough, and woody. They are round and of a greenish Colour, stained sometimes almost throughout, almost always in Part with a fine Purple. They have some Branches in their lower Part but more toward the Top. The Leaves are small and of a whitish green Colour on the upper Side, and very white underneath. They are extreme finely divided, and in some Degree resemble those of Southernwood, but that the Segments, though very narrow, are shorter than in the Leaves of that Plant. The Leaves of this Species of Wormwood are of a fragrant and aromatic Smell, and of so agreeable a Taste, that though they have evidently somewhat of the Wormwood Bitter, they may be chewed with Pleasure. The Flowers grow all along the Tops of the Branches; they are like those of common Wormwood, but smaller, and of an oblong Figure in the Cluster, not round as in that Plant. The Roots are small and of a woody Texture, they spread every Way under the Surface of the Earth, and send up new Shoots at Distances; there is scarce any known Plant that spreads so quick this Way, or might be propagated so abundantly.

This is the Plant we understand by the Name of *Absinthium Romanum* in the Shops. It is distinguished by Authors by the Name of *Absinthium tenuifolium incanum*, and *Absinthium folio inferius albo*. It is kept in some of our Gardens, but is not brought to Market, the common Sea Wormwood or *Absinthium marinum album* being universally sold in its Place; though this is vastly a superior Plant in its Virtues, and nothing would be so easy as to raise it in the Gardens where medical Herbs are cultivated for Sale, in sufficient Quantity for the Demand of the Apothecaries.

Roman Wormwood, distilled in a Retort, yields first a colourless and limpid Phlegm, smelling strongly of the Plant, and with a considerable Taste of it, but with somewhat of an Acidity with it; a little of the essential Oil of the Plant comes over with this: After this comes over a Phlegm still smelling and tasting of the Plant, but withal strongly acid and austere; some essential Oil also comes with this. After these there rises a small Quantity of a turbid reddish Liquor, highly impregnated with a volatile alkaline Salt, then a large Portion of essential Oil alone, partly thin and fluid, partly thick, and a few Grains of a volatile Salt in a concreted Form. The Remainder in the Retort, calcined in an open Fire and lixiviated, yields a larger Quantity of a fixed alkaline Salt, not less than in the Proportion of three Drams from every Pound of the Herb.

The essential Oil of this Species is much less bitter than that of the common Wormwood, and has an agreeable aromack Flavour. The Virtues in general of the Plant are the same with those of the common Wormwood; but

it is less bitter and more aromatic. It is a much pleasanter Medicine, but for many Purposes a much less efficacious one. A Conserve of the Tops of this Plant cut in Spring while they are full of Juice, is a very good Stomachic; and is so pleasant that it may be eaten in any Quantity.

CHAPTER XIII.

CENTAURIUM MINUS.

Lesser Centaury.

THERE are two Plants described by botanical Writers under the common Name of *Centaureum*, but distinguished by the Addition of *majus* and *minus*; they are extremely distinct from one another, and indeed belong to two very different Classes. The greater Centaury however is at present wholly rejected from our Shops, and the small one, or *Centaureum minus* alone retained there.

This is one of the *Pentandria Monogynia* of *Linnaeus*, and of the *Herbæ pentapetaloides Vasculiferae* of *Ray*. It is described by *J. Baubine* under the Name of *Centaureum minus flore purpureo*, and by most of the other botanical Writers under that of *Centaureum minus* alone. It grows to six or eight Inches high, its Stalk is tough and woody, and branched toward the Top: There is a Cluster of Leaves about its Base, and others standing in Pairs higher upon it. They are of an oblong Figure, smooth, not serrated at the Edges, and of a pale green Colour. The Flowers stand in little Clusters toward the Tops of the Branches; they are moderately large, and of a beautiful bright red Colour; they are tubular, and divided into five Segments at the Edge. The Flowers are succeeded by long and slender membranaceous Capsules, which contain small Seeds in great Number lodged in their Cells. The Flowers and Leaves of this Plant are intensely bitter; the Root, which is small, whitish, and woody, has scarce any Taste.

The lesser Centaury, distilled fresh in a Retort, yields first a colourless Phlegm, which has little or no Smell, but is of an acrid and pungent Taste, and somewhat faintly acid; this acrid Quality in the first Phlegm of this Plant is singular, most others yielding an insipid or at the most only a subacid one. After this comes over a larger Quantity of another Phlegm, at first colourless and as acrid as the former, but soon after less acrid and more acid; and finally reddish; not at all acrid, but of a very strongly acid and austere Taste, and of an empyreumatic Smell. After this comes over a small Quantity of a brown Liquor, of a more empyreumatic, and as it were sooty Smell, and of an austere Taste, impregnated in a high Degree with a volatile alkaline Salt of the urinous Kind. After this comes over a moderate Quantity of Oil, and the Remainder in the Retort, being calcined and lixiviated, yields a small Portion of a fixed alkaline Salt.

The flowery Tops of small Centaury are the Part to be used in Medicine; they are attenuating and resolvent, they are good against all Collections of viscid Humours, and Obstructions of the *Visera*. It restores a decayed Appetite, and promotes Digestion. It is good in all chronic Cases, and will often

often cure intermittent Fevers without any farther Assistance. It promotes Urine and the Menfes, and is remarkable for opening the hæmorrhoidal Veins, and forcing the accustomed Discharges that Way, when they have been by any Accident suppressed and impeded. The Tops are best infused in Wine for these Purposes, and a moderate Glass drank by Way of a Dose twice a Day. *Rulandus* affirms, that all intermittent Fevers may be cured by this Plant after a Vomit has been given: But this is saying too much. We are to observe however, that Persons cured by Medicines of this Kind, which attack the very essential Cause of the Disease, are less subject to Relapses, than those cured by any other Means.

The Ancients have been very large in their Encomiums of this Plant: *Galen* has a whole Book on the Virtues of it ascribed to him, in which there is a Prescription for an Extract of it; which shews that they were well acquainted with this Form of Medicine, and knew how to make it to a greater Advantage than we either know or care to be at the Trouble of at present. They esteemed it one of the greatest Medicines known against the Bite of a mad Dog, and gave it against all other venomous Bites, and in Madness also from whatever Cause. *Palmarius* has a compound Powder, which he says is a certain Remedy for the Bite of a mad Dog; and of which this Plant, with Rue, Vervain, Sage, Wormwood, Mint, Baum, Mugwort, Betony, and St. John's Wort, are the principal Ingredients.

A simple distilled Water of small Centaury used to be kept in the Shops, but it has been found to have none of the Virtues of the Plant, and is therefore wholly rejected at present. An Extract of it is sometimes made, which is a very valuable Medicine, and the dried Herb is kept to be an Ingredient in bitter Infusions and Decoctions, and in stomachic Tinctures in Wine.

C H A P T E R XIV.

CARDUUS BENEDICTUS,

Holy Thistle.

THE *Carduus Benedictus* is one of the *Syngenesia polygamia æqualis* of *Linnaeus*, and of the *Herbæ flore Composito Capitatæ* of *Ray*. It is described by *C. Baubine* and *Tournefort*, under the Name of *Cnicus Sylvestris hirsutior sive Carduus Benedictus*. *Fuchsius* calls it *Atractylis hirsutior*, *Cordus Acanthium*, and other Authors in general, *Carduus Benedictus*.

The Leaves which rise immediately from the Root are long, narrow, and indented deeply at the Edges, so as in some Degree to resemble those of Dandelion; but they are of a pale green, hairy, and terminate in a weak Kind of Spines. The Stalk rises to a Foot or more in Height, it is but slender and weak, so that it is often great Part procumbent. It is striated and divided into a Number of Branches; the Leaves stand alternately on it, and are of the same Shape with those at the Bottom, but smaller: The Tops of the Branches are ornamented with very large Flowers of the flosculous Kind, consisting of each a great Number of small, yellow, hollow Floscules, divided into five Segments at the End; these are surrounded with one general foliaceous Cup,

which assumes an oval Figure, and has many branched Spines about it. The Seeds are of an oblong Figure, and are striated and furnished with Down at their Ends. The Root is small, full of Fibres, and of a yellowish Colour; the whole Plant is very bitter, except the Root, which has very little Bitterness in it. It is not a Native of *England*, but the great Demand for it on account of its medicinal Virtues, occasions its being propagated in all the Gardens about *London* where medicinal Herbs are raised.

A Pound of fresh gathered *Carduus Benedictus*, distilled in a Retort, yields first near five Ounces of a limpid Phlegm, of little Smell, but of an obscurely acid and saline Taste. After this there rise about nine Ounces of a Phlegm colourless at first, and much more strongly acid than the other, but afterwards of a brownish Colour and very austere Taste. After this comes a very small Quantity, not more than a Dram or two, of a brown Liquor strongly impregnated with a volatile urinous Salt; and finally about a Dram of a thick brown Oil. The Remainder in the Retort, calcined in an open Fire and lixiviated, yields about a Dram of an alkaline Salt.

Carduus Benedictus has been celebrated by the Writers of earlier Ages, as one of the greatest Medicines of the vegetable World. It has been recommended as an Alexiterial, Sudorific, and Cordial; and the Cure of Pleurifies, Peripneumonies, and intermittent Fevers, have been enumerated among the least of its Effects. It was much depended upon in malignant Fevers, and even in the Plague. Its Juice was sometimes given, sometimes a Decoction of it, and sometimes the dried Leaves in Powder. At present however these great Virtues are much suspected, and the greatest Use made of it is by Way of Infusion for the working off an Emetic. Some indeed take this Infusion alone as a Vomit, and it will sometimes succeed very well, but it requires large Doses. The Seeds have been recommended in Emulsions with Almonds and other Ingredients, and sometimes alone in Pleurifies, and to promote the Eruption of the Pustules in the small Pox.

We used to keep a simple Water of *Carduus Benedictus* in the Shops, but it has been found to have little or nothing of the Virtues of the Plant, and therefore has been of late wholly disused.

CHAPTER XV.

M E N T H A, *Mint.*

MINT is one of the *Didynamia Gymnospermia* of *Linnæus*, and of the *Herbæ Verticillatæ* of *Ray*. There are several Species of it, three of which are used in the Shops. 1. The common Spear Mint. 2. The Pepper Mint, and 3. The *Menthastrum* or Horse Mint.

The first of these is the common Mint of our Gardens, the *Mentha angustifolia Spicata* of *C. Baubine*, the *Mentha Romana* of *Gerard*, and the *Mentha Romana angustifolia sive Cardiaca* of *Parkinson*.

The second is also a Garden or cultivated Mint. It is the *Mentha Piperitis*, and *Mentha Piperis Sapore* of Authors; and the third is a wild Mint, distinguished by Authors by the Name of *Menthastrum Spicatum folio longiore*
Candicante

Candicante, and *Mentha sylvestris folio longiore*, under which Name it is well described by *Caspar Baubine*.

MENTHA SATIVA,
Spear Mint.

The Spear Mint, is a very handsome and regularly growing Plant. Its Stalks are square and erect, very firm and strong, and usually of a brownish Colour when the Plant is full grown. The Leaves are two Inches or more in Length, and about half an Inch in Breadth. They have no Pedicles, but grow to the Stalk at their Base; they stand in Pairs two at each Joint of the Stalk opposite to one another; they are very sharply serrated all along the Edges, and end in a Point; they are of a fine lively green Colour, of a strong but agreeable Smell, and a very aromatic Taste, especially when dried. The Flowers grow at the Top of the main Stalk, and of the several young Shoots which are propagated from the *Axæ* of the Leaves and rise on each Side of it; they are disposed in circular Series or Clusters round the Stalks; but these stand so close to one another, and occupy such a Length of the Stalks, often not less than four or five Inches, that they make a Kind of long and slender Spikes. They are of a bright red Colour, small, and of the labiated Kind, and stand in narrow, tubular, greenish Cups. At the falling of the Flowers these Cups remain and become a Kind of Capsules, each containing four small brown Seeds. The Root is small and of the creeping Kind, and propagates itself very quick, spreading over a great Quantity of Ground in a very little time.

A Pound of fresh gathered Mint distilled in a *Balneum Vaporis*, yields twelve Ounces of a Phlegm, the first Runnings of which are turbid and whitish, containing somewhat of the essential Oil of the Plant, and smelling and tasting very strongly and very agreeably of it; but the latter Runnings are more limpid, less scented with the Plant, and by Degrees become of an acid and disagreeable Taste. The Remainder, distilled in a Retort, yields first about half an Ounce of a brownish empyreumatic Phlegm, strongly acid and austere; after this about three Drams of a yet darker coloured Liquor, strongly impregnated with a volatile alkaline Salt; and after this about near three Drams of an Oil partly fluid, partly thick and coarse. The Remainder in the Retort, calcined and lixiviated in the common Way, yields about two Scruples of a fixed alkaline Salt.

Spear Mint is a famous Stomachic and Carminative. It strengthens the Stomach, prevents or stops Vomitings, when not from too violent Causes, and discusses Flatulencies. It is also esteemed a great Cephalic, and is prescribed by many in Vertigoes and other Disorders of the Head and Nerves; and some recommend it as an Aperient in Obstructions of the *Viscera*. We keep a simple Water made from it by the Alembic in the Shops, and an essential Oil distilled the same Way: Both of them possess much of the Virtues of the Plant; and it is beside these, and its Use in Infusion or Decoction, an Ingredient in many of the Compositions.

C H A P T E R XVI.

MENTHA PIPERATA,
Pepper Mint.

TH I S is a very stately and shewy Plant, it grows to three Feet in Height. Its Stalks are square, robust and strong, tho' they have a large Hollow within. They are of a greenish Colour in the young Plants, but they become brown or reddish afterwards. They are not branched, but toward the Top there are small Shoots propagated from the *Axæ* of the Leaves on each Side, which have the Appearance of Branches on a cursory View. The Leaves are long and somewhat broader than those of the common Spear Mint; they are sharply serrated about the Edges, and are of a deep or blackish green Colour, a little hairy, and of a hot and pungent Taste like that of Pepper, but with somewhat of the Mint Flavour with it. The Flowers are larger than those of the Spear Mint, and of a paler red; they do not stand in such long and slender Spikes as in that Species, but in thick and short Clusters; they are labiated, and are each succeeded by four small brownish Seeds which remain in the Cup of the Flower, as in a Capsule. The Roots are slender, and creep under the Surface of the Earth, spreading over a great deal of Ground in a very little Time. The whole Plant has the same hot and pungent Taste with the Leaves, but it is more intense in them and in the young Shoots, than in any other Parts.

A Pound of the pick'd Leaves and Tops of Pepper Mint distill'd in a *Balneum Vaporis* yields between twelve and thirteen Ounces of a Phlegm, at first turbid and white from an Admixture of some of the essential Oil; this smells and tastes strongly of the Plant, but the latter Runnings are limpid and of a faintly acid and saline Taste, though not perfectly without an Admixture of the Oil, and therefore still tasting pungent and smelling of the Plant. The Remainder of this Distillation put into a Retort yields first a brown empyreumatic Liquor, strongly acid and saline, and somewhat austere, with a Mixture also of a volatile alkaline Taste: After this comes over a second Liquor, brown and more empyreumatic, but loaded very much with a volatile alkaline Salt, and having very little Acidity: After this comes a small Quantity of a thin, and a larger of a thick Oil; the Remainder of this Distillation calcin'd in an open Fire and lixiviated, yields about a Dram of a fix'd alkaline Salt.

This Plant has lately got into great Esteem as a Stomachic and Carminative: A distill'd Water of it is kept in the Shops of the simple, and another of the spirituous Kind; the simple Pepper Mint Water is made from the dry'd Plant, in the Proportion of a Pound and a half to every Gallon to be distill'd. The spirituous Water is distill'd from the same Proportion of the Plant, and a Quantity of Proof Spirit equal to what is intended to be drawn off with Water enough to prevent burning. They are both given in Flatulencies and Cholics arising from that Kind of Cause. The essential Oil of this Plant is sometimes made in the common Way, and is the most acrid and pungent of any thing of the Kind.

C H A P T E R XVII.

MENTHASTRUM,

Horse Mint.

THIS much resembles the common Spear Mint in its manner of Growth, but it is distinguish'd from it at Sight by its whitish Colour. It grows to two Feet or somewhat more in Height; the Stalks are very strong and hard, they are square, hollow within, and cover'd with a white Down or Hairyness on their Surface. The Leaves are from an Inch and a half to two Inches in Length, and about two thirds of an Inch in Breadth; they are cover'd with the same Kind of Hoaryness with that of the Stalk, and look of a greyish Colour. They have no Pedicles, but are affix'd immediately to the Stalk, and are broadest near the Base, and terminate in a Point. They are serrated round the Edges, and are of an acrid Taste and of a pungent and strong, but not disagreeable Smell. The Stalk runs up single to the Top, but there grow a number of smaller Stalks in Pairs from the *Alæ* of the upper Leaves, one on each Side the main Stalk at each Joint; these give the Top of the Plant a very branch'd Look, and they have usually other younger Shoots propagated from them: All these are at their Extremity ornamented with Spikes of Flowers composed of several circular Tufts of them, each surrounding the Stalk, but these so closely set by one another, that they seem one even and common Series. The Top of the Plant thus exhibits a great Profusion of Spikes, and makes a very beautiful Appearance. The Flowers are small and whitish, the Cups they stand in are also whitish, and hoary like the rest of the Plant. Each Flower is succeeded by four Seeds lodged in the Bottom of the Cup, which remains and serves as a Capsule for them. The Root is small and creeping, and the Plant where it once has Footing propagates itself very quick. It is found wild in many Parts of *England*, generally about the Sides of Ponds and Ditches, but sometimes in drier Places.

A Pound of the fresh Plant distill'd as the former in *Balneo Vaporis*, yields eleven Ounces and a half of a Phlegm, at first turbid and milky, and strongly scented of the Plant; afterwards more limpid and of a saline and acrid Taste, though neither very strong. The Remainder of this Distillation, put into a Retort and distill'd, affords first a brownish Liquor of an empyreumatic Smell, and of an austere and strongly acid Taste; this is in Quantity about an Ounce and a half; after this comes over about half an Ounce of a browner and more empyreumatic Phlegm, strongly impregnated with a volatile alkaline Salt; and after this a little Oil of a thick Consistence and blackish Colour: The Remainder in the Retort, calcin'd in an open Fire and lixiviated, yields about a Dram of a fix'd alkaline Salt.

The *Menthastrum* has been greatly celebrated as a Cephalic and Uterine: The Women in the Country often give an Infusion of it, in the manner of Tea, to promote the Menfes; and the Midwives make their Patients sit over a Decoction of it to forward Delivery: It is kept in the Shops as an Ingredient in some of the officinal Compositions, but otherwise it is very little used.

C H A P

CHAPTER XVIII.

MELISSA,
Baum.

BAUM is one of the *Didynamia Gymnospermia* of *Linnaeus*, and one of the *Herbæ Verticillatæ* of *Ray*. It is described by all the botanical Writers under the Name of *Melissa Vulgaris*, *Melissa Hortensis*, and *Melissa Sativa*. It grows to the Height of two or three Feet, sometimes more. It is a robust Plant, and a less regular grower than the Mints. Its Stalks are square, strong and somewhat hairy. Its Leaves stand in Pairs opposite to one another at the Joints, and have Pedicles an Inch or more in Length, and but slender. They are broadest at the Base, and serrated round the Edges. They are of a bright green when young, but of a very dark and disagreeable one when old, and are somewhat hairy. The Flowers do not grow in Form of Spikes as in the common Mint, but in circular Clusters at the Joints, and in the *Axæ* of the Leaves they are small and white. The Cups they stand in are large and highly ridg'd or striated, they remain after the Flowers are fallen, and each serves as a Capsule to retain four small and brown Seeds.

The Plant is not a Native of *England*, but it flourishes in our Gardens with very little Culture, and soon overspreads a great deal of Ground. The whole has an extremely fragrant and agreeable Smell, but its Taste is less pleasant than might be expected.

A Pound of fresh Baum, distill'd in a Retort, yields first about three Ounces and a half of a limpid and colourless Liquor, smelling very agreeably of the Plant, but tasting a little saline and obscurely acid. After this come over eight Ounces of a Phlegm, at first limpid and more strongly acid than the former, afterwards a little brownish and austere: After this there comes over a little more than an Ounce of a brown empyreumatic Liquor, very strongly acid, and with a Mixture of a volatile alkaline Smell; then about two Drams of an Oil, partly thin partly thick as Butter. The Remainder in the Retort, calcin'd in an open Fire and lixiviated, yields near a Dram of a fix'd alkaline Salt.

Baum is greatly esteem'd among the common People, as good in Disorders of the Head and Stomach; it is less regarded in the Shops. There used to be a simple Water kept of it, but that possessed so little of the Fragrancy or Virtues of the Plants that it is at present neglected; there is however a way of obtaining a very fragrant Water from it by means of Fermentation, though in the common Way of distilling it yields very little Smell.

It is most conveniently taken in Infusion made by way of Tea; and the green Herb, it is to be observed, is greatly better than the dry, which is contrary to the general Rule in Regard to other Plants.

CHAPTER

C H A P T E R XIX.

HEDERA TERRESTRIS,
Ground Ivy.

THERE are two Plants distinguished by botanical Writers by the general Name of *Hedera*, Ivy, as different from one another as two Plants well can be: The one being shrubby and bacciferous, the other a creeping tender Plant, and of the verticillate Kind. They are distinguished from one another by the Additions of *Arborea* and *Terrestris*. The *Hedera Arborea* or Tree Ivy, will be treated of, under the Article of the *Gum hederæ*, in its proper Place. The *Hedera Terrestris* or Ground Ivy, is to be spoken of here.

This is one of the *Didynamia Gymnospermia* of *Linnaeus*, and of the *Herbæ Verticillatæ* of *Ray*. The botanical Writers have described it under the Names of *Hedera Terrestris*, *Chamæ Cissus*, and *Calamintha humilior folio rotundiore*.

It is a low Plant; its Stalks are square, hollow and jointed, somewhat hairy and of a dusky green, or more usually a purplish Colour. They grow to twelve or fourteen Inches in Length, but are in great Part procumbent, sending out Roots from the several Joints that lie upon the Ground, and by that means spreading over a great deal of Ground in a short Time. The Leaves stand two at each Joint opposite to one another; they are set on long Pedicles, and are of a roundish Figure, somewhat aurited at the Base, and pretty deeply crenated round the Edges; they are often as broad as a half Crown, and are hairy. The Flowers stand at the Joints arising from the *Alæ* of the Leaves, they are moderately large and of a fine blue Colour; they are of the labiated Kind, and the upper Lip is divided into two Segments and turn'd towards the Sides, the lower is divided into four. The inner Part of the Flower is variegated with Lines and Spots of a strong red, and the Opening is ornamented with a short hairy or downy white Matter. The Cup of the Flower is oblong, striated and divided into five Segments at the Edge. When the Flower is fallen it swells out in the Middle and becomes a Kind of Capsule, containing four small roundish and smooth Seeds. The Roots are small and fibrous, the whole Plant has a bitter but not very disagreeable Taste, and a very peculiar Smell.

A Pound of fresh Ground Ivy, distill'd in a Retort, yields first a colourless Liquor of no remarkable Smell, and of a fainty, saline and subacid Taste, in Quantity about four Ounces; after this comes about twice that Quantity of a Liquor still colourless and limpid, at first of a more and more strongly acid Taste, and at last austere; after this come over about two Drams of a Liquor strongly acid, austere, and somewhat urinous; after this about half an Ounce of a brownish Liquor, of an empyreumatic Smell, and strongly impregnated with a volatile urinous Salt, and finally about three Drams of a thick and black Oil. The Remainder in the Retort, calcin'd and lixiviated, yields about four Scruples of a fix'd alkaline Salt.

Ground Ivy is an Attenuant and Dissolvent, and is famous both internally and externally as a Vulnerary. It is much used with us in an Infusion, in Form of Tea for Disorders of the Breast and Lungs, and is sometimes made an Ingredient

dient in the Pectoral Decoctions. A Conserve made of the young Plant when in Flower early in Spring retains its Virtues in a very agreeable Form, but it is seldom kept in the Shops. Authors give it the Character of a Specifick in Erosions and Exulcerations of the Viscera, and particularly of the Kidneys, and of the Lungs: On this Account the Juice has been given for a long Course of time to People in Consumptions, and it is said with Success. *Lindanus* speaks greatly of it in an *Empyema* and *Vomica pulmonum*, and recommends it before all other Medicines to such as void Blood, and purulent Matter by Urine. *Etmuller* recommends it in Bruises from Falls, and *S. Paulli* tells us, that in Case of Gravel or Stones in the Kidneys, there is no Medicine equal to Powder of the dry'd Ground Ivy given in Doses of a Scruple or half a Dram, two or three times a Day for a considerable time. *Ray* tells us that the Juice of it snuff'd up the Nose is a Cure for Head-achs, even of the worst Kind; and externally very great Praises are given to it as a Cleanser and Healer of Ulcers; the Leaves bruised and apply'd with a little Lard, or any such Substance, to reduce them to Form, and keep them from drying up too soon. But notwithstanding that all this has been said in Praise of this Plant, we in a great Measure leave it to the common People.

CHAPTER XX.

MARRUBIUM,
Hoarhound.

HOARHOUND is one of the *Didynamia Gymnospermia* of *Linnaeus*, and of the *Herbæ Verticillatæ* of Mr. *Ray*. There are many Species of it, one of which is only used in the Shops, this is the common white Hoarhound. The *Marrubium Album vulgare* of *C. Baubine*, the *Marrubeum Album* of *J. Baubine*, and the *Marrubeum sive Prasium Album* of *Tabernamontanus*. It is a very singular Plant and easily distinguish'd at sight, from all the others of the same Class that are Natives of our Climate. It generally grows in little Tufts or Clusters, the Stalks are square, tolerably thick and firm, hairy, and about a Foot and half, or sometimes two Feet high; the Leaves stand on these in Pairs, two growing at each Joint of the Stalk opposite to each other, they are roundish, largest at the base, and terminate an obtuse Point; they are notch'd about the Edges, and are cover'd very thick with a white Hoariness: these stand on Pedicles of an Inch or more in Length, the Flowers stand in thick and large Clusters, round the Stalks at the Joints where the Leaves are inserted; they make a Sort of round Balls at these Places; the Cups are large, hoary and terminate in small Spines; the Flowers which grow out of them are very small, white, and of the labiated Kind; the upper Lip is erect and divided into two Parts, the lower one into three. The Cup remains after the Flower is fallen, and serves as a Sort of Capsule to four oblong Seeds, which succeed each Flower, and are lodged in the Bottom of this Cup. The Root is long, hard and woody, of a whitish Colour, and furnish'd with very numerous Fibres. The Flowers, tho' they seem to grow from the whole Circumference of the Stalk at the Joints, yet in reality rise only from the *Axe* of the two Leaves, but they are very numerous, and spread on each Side till they meet and close together. The whole Plant

Plant is of a strong and peculiar Smell, which can hardly be call'd a disagreeable one. *Dodoneus* says there is something of Musk in it, the Taste of the Leaves is bitter and astringent.

The fresh Plant, distill'd in a Retort, yields first a colourless and clear Liquor of the Smell and Taste of the Plant, and withal somewhat acid; after this comes over a still clear and colourless Liquor more strongly scented of the Herb and bitterish, and more acid in its Taste, till toward the last Runnings, when it becomes very austere; after this comes over a small Quantity of a brownish Liquor, of an empyreumatic Smell, and of a very austere, acid, and saline Taste: after this a yet smaller Quantity of a Liquor of a browner Colour, strongly impregnated with a volatile alkaline Salt, and finally a very large Share of a thick black Oil. The remainder in the Retort, calcin'd in an open Fire, and lixiviated, yields a very large Portion of a fix'd alkaline Salt, no less than two Drams from the Pound of the fresh Herb used. Hoarhound is attenuant and resolvent, it is famous for the Relief it gives in moist Asthmas, and in all Diseases of the Breast and Lungs, in which a thick and viscous Matter is the Cause; it is also capable of doing great good in many chronic Complaints, where the Cause is of the same Kind. At present however it is very little used in the Shops. The dry'd Herb is sometimes kept in readiness for People, who buy it to make an Infusion of, in the manner of Tea. There used to be a compound Syrup of it kept in the Shops, but it is now out of Use.

C H A P T E R XXI.

HYSSOPUS,

Hyssop.

HYSSOP is one of the *Didynamia Gymnospermia* of *Linnaeus*, and one of the *Herbæ Verticillatæ* of *Ray*. It is described by all the botanical Writers under the Name of *Hyssopus Vulgaris*, *Hyssopus Spicata Cærulea*, and *Hyssopus Spicatus angustifolius flore Cæruleo* for the different Authors make the Word some Masculine, others Feminine.

It grows to about two Feet in Height; the Stalks are slender and brittle; they are full of Branches toward the top: the Leaves are an Inch long, and very narrow, sharp pointed, smooth, and of a dusky green Colour; they have a very sweet Smell, and an aromatic, but somewhat austere and acrid Taste. The Flowers are placed on the tops of all the Branches in a Sort of Spikes composed of little Tufts, arranged in the verticillate manner, but almost all situated on one Side of the Stalk; they are large, labiated, and of a beautiful deep blue Colour. They stand in long striated Cups, divided at the Extremity into five Segments. The upper Lip of the Flower is placed in an erect Posture, and is bifid, the lower is divided into three Segments, the middle one of which is hollow and somewhat like a Spoon, and is divided into two at the Extremity, and as it were alated.

The Flower is succeeded by four small Seeds, which are roundish and of a brown Colour, and are situated in the Bottom of the Cup, this being left standing after the Flower is fallen, and serving them as a Capsule. The Root is as thick as ones Finger, hard, woody, of a whitish Colour, and sends out a great

Number of Fibres. The Plant is not a Native of *England*, but is cultivated in great Abundance in our Gardens.

A Pound of fresh gather'd Hyssop, distill'd in a Retort, yields first about four Ounces of a limpid Liquor, strongly scented, and tasting as strongly of the Plant, but with a faint Acidity, and with it a few Drops of an essential Oil; after this between seven and eight Ounces of a Liquor, colourless at first, but afterwards reddish, and in fine of a deep brownish red: this is at first acid, but afterwards very austere: after this comes over a reddish Liquor, highly impregnated with a volatile urinous Salt, its Quantity about six Drams; then about twelve Grains of volatile Salt in a dry concreted Form; and finally somewhat more than half an Ounce of an Oil, in Part thin and limpid, in Part thick and opake. The remainder in the Retort, calcin'd in an open Fire and lixiviated, affords somewhat more than a Dram of a fix'd alkaline Salt.

The whole Plant has an acrid Taste, and a very strong Smell: it is attenuant and discutient. It is greatly recommended in Disorders of the Lungs, when they are loaded with a foul and thick Matter. It also strengthens the Stomach, and assists Digestion; it promotes Expectoration by its Acrimony, and by its Power of attenuating the viscous Matter in the Lungs, and is therefore good in moist Asthmas: its good Effects in the Stomach are of the same Kind, depending on its attenuating and absterging the viscous Phlegm lodged there, and impeding it in the Discharge of its proper Functions. It is also good in Diseases of the Head; it is best taken in Infusion in the manner of Tea, not made so strong as to be disagreeable to the Palate, and often repeated. A simple Water of it is kept in the Shops, which retains much of its Taste, Smell and Virtues; we used also to have a Syrup of it, but that has of late been disregarded.

Externally Hyssop is greatly recommended in Cases of Bruises; the Blackness setting under the Eyes from Blows is carried off very readily by a Cataplasm of the Leaves of Hyssop, or only a little Bundle of the Plant sew'd up in a Linen Rag and apply'd to the Part; and *Ray* gives us an Account from Mr. *Boyle* of a violent Contusion of the Thigh from the Kick of a Horse, very happily cured by this Herb, boil'd and apply'd as a Cataplasm; he tells us the violent Pain was almost instantly removed, and the very Mark and Blackness taken off in a few Hours.

CHAPTER XXII.

ERYSIMUM, *Hedge Mustard.*

ERYSIMUM is one of the *Tetradynamia Siliquosa* of *Linnaeus*, and one of the *Herbæ flore tetrapetalo siliquosæ* of *Ray*. It is very well known among us by the Name of Hedge Mustard, and is described by the botanical Writers under that of *Erysimum Vulgare*, and by some under those of *Iris* and *Hierobotane*. *Tragus* calls it *Verbena fœmina*, and *anguillara cleome Olearii*.

Its Root is small, white and oblong, penetrating strait down into the Earth, of an acrid Taste, and of a Smell somewhat like that of a Turnep. The Stalks are very firm, hard and woody, they are round, hairy, and grow to

about

about two Feet high; they are much branch'd. The Leaves are about two Inches long, and are variously and oddly divided; they are of a dusky green Colour, hairy, and placed alternately on the Stalks. The Flower is small and yellow, it is composed of four little Petals, and stands in a fourleaved and hairy Cup. The Fruit which succeeds this is a long and slender Pod, hairy, and standing close to the Stalk; when ripe it divides into two Parts, and is found to contain a Number of brown small Seeds very acrid to the Taste. The Flowers and Pods stand in a long Series at the Top of every Branch, often to the Length of four or five Inches.

The Plant is extremely common with us by Way Sides, and often on old Walls. A Pound of fresh gather'd *Erysimum*, distill'd in a Retort, yields first between twelve and thirteen Ounces of a Liquor clear and colourless, of an herbaceous Smell, and of an obscurely saline and urinous Taste, but without the least Acidity: after this comes over about a Quarter of an Ounce of a brown and empyreumatic Liquor, strongly sated with a volatile alkaline Salt; and finally about a Dram and half of a thick Oil. The Remainder in the Retort, calcined in an open Fire and lixiviated, yields near two Drams of a fix'd alkaline Salt. The Quantity of alkaline both of the fix'd and volatile Kind, separated on the Analysis of this Plant, and the Absence of the Acid so general in the Analysis of fresh Plants, render the Result of this Process singular.

The Plant is famous as an Attenuant and Resolvent. It has been greatly celebrated for dissolving tough viscous Humours in the Lungs and Fauces, and carrying them off by Expectoration, which it promotes in a very remarkable manner. It is of particular Service in moist Asthmas, inveterate Coughs and Hoarsenesses arising from a tough Matter. *Rondeletius* is said to have done many Cures in Hoarsenesses of several Months standing with a few Doses of it. We used to have a Syrup of it in the Shops, but it is now disused.

CHAPTER XXIII.

DRACONTIUM,

Dragons.

THE *Dracontium* is one of the *Gynandria Polyandria* of *Linnaeus*, and of the *Herbæ Bulbosæ Affines* of *Ray*. It is described by the Generality of botanical Writers under the Name of *Dracontium*, and *Dracontium majus*. Some call it *Dracunculus major*, but this is a less eligible Name, because it is also used to express two other very different Plants, the *Dracunculus hortensis*, or *Taragon*, and the *Dracunculus pratensis*, or *Piarmica* the Sneesewort. Those who call it *Dracunculus* indeed, usually distinguish it from both these by the Addition of the Term *Polyphyllus*, alluding to its carrying several Leaves as it were on the same Pedicle, as they themselves express it, tho' these are rather properly the several Segments of one single Leaf: others from its Resemblance to the common *Arum* call it *Arum Polyphyllum*, and others from its spotted Stalk, *Anguina serpentaria*, and *colubrina*: as there is however an appropriated Name, *Dracontium*, which cannot confound it with any other Plant, it is much better to know it only by that Name in the Shops.

It is a very beautiful and stately Plant. The Stalk is usually an Inch in Diameter,

meter, and grows to the Height of four Feet or more. It is succulent and tender, very smooth on the Surface, and variegated in a very beautiful manner there, with purple, red, and blackish Spots, resembling in some Degree those on the Back of a Snake. It is composed of a Number of Coats surrounding one another, and is easily broken. The Leaves stand on long Pedicles, and are of a very beautiful Make; they are divided deep, even almost to the Base into six, seven, or more Segments, which stand at some Distance from one another, and are long, narrow, and of a dark blackish green Colour. The Stalks on which these stand are tender, succulent, and of a fungous Structure. The Flower is propagated from among these, and rises up in the middle. Its Pedicle is of the Thickness of ones little Finger, and it in all respects resembles that of the common *Arum*, or Cuckow Pint, but that it is vastly larger. The *Vagina* is at least a Foot long, green on the outside, and of a fine Purple within: the Pistill is like that of the *Arum*, but vastly larger, of a blackish purple Colour, and terminated in a sharper Point. At the Base of this are a Number of Apices, and of Embryo Fruits, which afterwards become large Berries, green at the first, but of a bright red when ripe, and of a very acrid Taste. The Root lies very deep in the Earth, and is of a roundish Figure, and as large as an Apple; it is cover'd with a thin yellowish Coat, but within it is of a pure white: it has many Fibres propagated from it, and at its Sides has a Multitude of other little Roots of the same Kind, which from time to time separate and send up their several Plants.

The Root, Stalk and Leaves are all of an extremely acrid and pungent Taste. The whole Plant fresh gather'd, bruised and distill'd in a Retort, yields first a moderate Quantity of a limpid colourless Liquor, of a somewhat pungent Smell, and of a very acrid Taste, approaching to the austere; after this there comes over a much larger Quantity of a Liquor limpid and colourless at first, but afterwards brownish, of a subacid, austere, and acrid Taste, and of an empyreumatic Smell: after this a small Quantity of a Liquor of a browner Colour, and more empyreumatic Smell, and of a volatile, and urinous alkaline Taste; finally there comes over a small Portion of a thick Oil. The Remainder in the Retort, calcined and lixiviated, yields a small Proportion of a fix'd alkaline Salt.

The *Dracontium* is a powerful Attenuant and Resolvent, it promotes Urine and the Menfes, and opens Obstructions in the Viscera: 'tis a very sharp Medicine however, and must be given with great Caution: apply'd to the Tongue of a Person in the first Shock of a Paralytic Fit, it will sometimes recover the lost Speech almost instantly. Some recommend the Root dry'd and powder'd, or the *Fæcule* prepared from its Juice by Subsidence; but in both these Forms it loses the far greater Part of its Virtues. It is recommended externally against foul Ulcers, and the Bites of venomous Animals; but at present we seem to regard it rather as an Alexipharmic, it being only kept in the Shops as an Ingredient in some Cordial Waters of that Intention.

CHAPTER XXIV.

THYMUS,
Thyme.

TH Y M E is one of the *Didynamia Gymnospermia* of *Linnaeus*, and one of the *Herbæ Verticillatæ* of *Ray*. There are a great Variety of Species of Thyme, but only three of them are used in Medicine; the common Thyme, the wild Thyme, or as it is commonly called Mother of Thyme, and the Lemon Thyme.

The first of these is the common Species kept in our Gardens, the *Thymus vulgaris folio tenuiore* of *C. Baubine*, the *Thymus vulgaris rigidior folio cinereo* of *J. Baubine*, and the *Thymus Vulgaris durior* of *Parkinson*.

The second is the *Serpyllum vulgare* of *J. Baubine*, the *Serpyllum vulgare minus* of *C. Baubine* and others. And the third is the *Serpyllum Citrei odore* of *J. Baubine*, the *Serpyllum Citratum* and *Thymus Citratus* of other Authors.

The common Thyme is a low, but very robust and shrubby Plant; six or eight Inches is the general Height it arrives at. Its Stalks are hard and woody, its Leaves small, oblong, and pointed at the Ends, of a dusky green Colour, and strongly aromatic Smell, and an acrid, but not disagreeable Taste.

They stand in Pairs upon the Stalks, and have usually young Branches or the Rudiments of such in their *Axæ*. The Flowers are small, of a pale red Colour and labiated, the Seed oblong and brown, the Root fibrous.

The Mother of Thyme, or common wild Thyme, is a much prettier Plant than the former. Its Stalks are very slender, but hard and woody; they are of a purplish Colour in most Parts, in some greenish or brownish. The Leaves are small, of an oval Figure, and of a bright green Colour, very smooth and glossy. It has few Branches, and seldom grows to much more than four Inches in Height; its Stalks being so small, that when longer they trail upon the Ground, and take Root at their several Joints. The Flowers are small, of a pale red, and of a labiated Form; the Seeds that succeed them are four in Number to each Flower, and are lodged in the Cup which serves them as a Capsule.

The Lemon Thyme, or as it is more properly expressed by the *Latin Name*, *Lemon Serpyllum*, for it much more approaches to the general Figure of the *Serpyllum*, than to that of the common Thyme, is a small Plant, not erect and robust as the Garden Thyme, but in Part procumbent; its Stalks generally lying on the Ground in their lower Part. It generally grows in large Tufts from the same Shoot; the Stalks are slender and about four or five Inches long; the Leaves small, oblong or oval, and pointed at the Ends, and of a greyish green Colour, and a very remarkable Smell; having the Flavour of Thyme very strong, but with it another and more agreeable Smell yet stronger which drowns it; this is that of the Citron or Lemon Peel. The Flowers are extremely numerous, and of a very pale whitish red; they stand in circular Clusters round the upper Parts of the Stalks for the Length of an Inch or more; they are of the same Form with those of the other Species. The Root is composed of a great Number of Fibres.

The

The chemical Analysis of one of these Plants will give the Principles of them all; for they differ very little except in the Proportion of Oil they yield, which is greatest of all in the Lemon Thyme, less in the common Thyme, and least of all in the *Serpyllum*.

A Pound of the *Serpyllum* or Mother of Thyme fresh gathered, when just opening into Flower and distilled in a Retort, yields first about two Ounces and a half of a very fragrant limpid Phlegm, of an obscurely acid and saline Taste, and with it a small Portion of the essential Oil; after this comes over a Liquor limpid and colourless at first, but afterwards brownish. This is more and more acid as it runs till toward the End it becomes very austere; in Quantity it is about eight Ounces; after this comes over a brown Liquor strongly impregnated with a volatile alkaline Salt, and of a strongly empyreumatic Smell. This is in Quantity near an Ounce, and after this comes over an Oil partly thin, partly thick, in the whole about three Drams and a half; a few Grains of Salt of the same volatile Kind with that impregnating the last Phlegm concretes in a solid Form to the Top of the Receiver, and the Remainder in the Retort, calcined and lixiviated, yields near four Scruples of a fixed alkaline Salt.

All the Species of Thyme are carminative, attenuant, and diuretic. The common Thyme, though generally used at our Tables, is not without its medicinal Virtues, equal to those of any of the rest; but the more agreeable Flavour of the Lemon Thyme has made it be generally received in its Place. The common *Serpyllum* is an excellent nervous Medicine; it makes an agreeable Kind of Tea in the common Way of Tea making; and a Course of this alone has cured many habitual nervous Complaints, which have foiled the more common Medicines. That common and troublesome Disease the Nightmare is more certainly cured by a Course of this Infusion, than perhaps by any other Medicine.

CHAPTER XXV.

SCORDIUM, *Water Germander.*

SCORDIUM is one of the *Didynamia Gymnospermia* of *Linnaeus*, and of the *Herbæ verticillatæ* of *Ray*. It is described by all the botanical Writers under the Name of *Scordium*, *Scordium verum*, and *Scordium legitimum*. It is a small and not very handsome Plant. Its Stalks are square, of a dark green Colour, hollow within, and hairy; they grow to five or six Inches in Length, but are procumbent in part. The Leaves are of an oblong Figure, small and serrated about the Edges; they are somewhat hairy, soft to the Touch, and of a dusky green Colour, which has somewhat of Whiteness from the Hairs that are on them. The Flowers are small and of the labiated Kind, and stand in the *Alæ* of the Leaves. The Root is fibrous.

The whole Plant has, when bruised, a very strong and disagreeable Smell, much resembling that of Garlick. It is a Native of *England*, but is not very common with us; it grows in moist and marshy Ground; what we are supplied with, for the Use of the Shops, is cultivated in Gardens about *London*.

Scordium fresh gathered, distilled in a Retort, yields first a moderate Quantity

ty near a fourth of its Weight, of a limpid and colourless Water, smelling strongly of the Plant, and of a subacid Taste. After this rises twice the Quantity of a Liquor clear at first, but toward the End brownish. The first Runnings of this are acid, the latter are austere and saline. After these comes a small Quantity of a brownish Liquor of a mixed, acid, austere and saline Taste, very strong and very empyreumatic; then a like Quantity of a brown empyreumatic Liquor, sated with an alkaline volatile Salt, and a few Grains of the same Kind of Salt in a dry Form; finally there rises a moderate Portion of Oil in Part thin and fluid, and in Part thick as Lard. The Remainder in the Retort, calcined in an open Fire and lixiviated, yields a small Quantity of a fixed alkaline Salt.

Scordium has long had the Credit of being a very great Sudorific and Alexipharmic. It is prescribed by all the medical Authors who have treated of it in malignant and pestilential Fevers, and in the Plague itself. It is an Attenuant and Dissolvent, and is on that Account recommended also in Obstructions of the Liver and Spleen, and in all Disorders of the Lungs arising from a viscous or a purulent Matter lodged there. It is said to destroy Worms. Externally it cleanses foul Ulcers, and applied by Way of Cataplasm mitigates Pain. It is at present however not used in any of these Intentions alone, and is merely kept in the Shops as an Ingredient in the *Confectio Fracastorii*, which though it contain several Medicines of more Virtue, yet takes its Name *Discordium* from it.

C H A P T E R XXVI.

C H A M Æ D R Y S,
Germander.

G E R M A N D E R is one of the *Didynamia Gymnospermia* of *Linnaeus*, and one of the *Herbæ verticillatæ* of *Ray*. There are many Species of it, but the only one used in the Shops is that called the common Germander, and described by all the botanical Writers, under the Names of *Chamædrys vulgaris* and *Chamædrys minor repens*.

It grows to five, six, or eight Inches high; but the Stalks seldom stand wholly erect, but are procumbent in the lower Parts. They are square, moderately thick, and very firm and woody. The Leaves stand in Pairs, and are of an oblong Figure, largest about the middle, serrated at the Edges, and terminating in a Point; they are of a pale green Colour, and of a bitterish and somewhat aromatic Taste. The Flowers are small, and of a pale red Colour, they stand in little Clusters in the *Axe* of the Leaves, and are of the labiated Kind, but they want the upper Lip; the lower one is divided at the End into three Segments: Each Flower is succeeded by four roundish Seeds, which are situated in the Bottom of the Cup, which remaining after the Flower is fallen, serves as a Capsule to them. The Root is fibrous and creeping, and the Plant propagates itself very fast by it. It is not a Native of *England*, but is cultivated in our Gardens for the Use of the Shops.

Germander, fresh gathered and distilled in a Retort, yields first a moderate Quantity of a limpid Phlegm, of no remarkable Smell, but of a faintly acid
B b b Taste;

Taste ; after this comes over a larger Quantity of a Phlegm still limpid ; the first Runnings of which are more acid than the former Liquor, and the last austere and disagreeable. After this there comes over a brownish and empyreumatic Liquor, at first of an acid and saline Taste, mixed with the austere ; and toward the End highly impregnated with a volatile urinous Salt. After all these there rises a thick Oil in the Proportion of about five Drams from the Pound. The Remainder in the Retort, calcined in an open Fire and lixiviated, yields a moderate Portion of a fixed alkaline Salt.

Germander is attenuating and aperient, and has also a manifest Astringency. It dissolves tough and viscous Humours, dislodges them from the *Viscera*, and afterwards strengthens the Parts so as to prevent Returns. It is a good Medicine in Jaundices, in the Beginning of Dropsies, and indeed in most chronic Cases ; and *Mathiolus* recommends it in pestilential Fevers. It is by some recommended also as a Cure for the Gout, if taken for a long Course of Time in the Manner of Tea. At present it is rarely given alone, but is kept in the Shops as an Ingredient in many of the Compositions.

CHAPTER XXVII.

CHAMÆPITYS,
Ground Pine.

GROUND PINE is one of the *Didynamia Gymnospermia* of *Linnaeus*, and of the *Herbæ verticillatæ* of *Ray*. The Species of it used in our Shops is that known by the Name of the common Ground Pine, and called by *C. Baubine* and *Tournefort*, *Chamæpitys lutea vulgaris folio trifido* ; others have called it *Chamæpitys odorata lutea*, *Iva Arthritica* and *Apiga*.

It is a low and unhandsome Plant. The Stalks are moderately thick, yet they are but brittle ; they grow to three, four, or five Inches in Length, but rarely stand perfectly upright, but are in Part at least procumbent ; they generally grow several from the same Root, and are arranged in a Sort of circular Form. The Leaves stand two at every Joint ; they are divided into three narrow Segments ; and are of a pale whitish green Colour, and hairy. The Flowers are small and yellowish ; they stand in the *Axæ* of the Leaves, and are of the labiated Kind ; but they want the upper Lip, having only some Indentings in the Place of it, and a Number of *Stamina*. The lower Lip is divided into three Segments, the Middle one of which is bifid. The Seeds are small, four of them succeed every Flower, and are lodged in the Cup, which remaining after they are fallen, serves them as a Kind of Capsule.

The Root is small, white, and fibrous. The whole Plant has a very singular Smell, resembling that of Resin or Turpentine, whence its Name *Ground Pine*. It is a Native of *England*, but is not very common. It grows on dry and barren Hills, and in some Places on the Ditch Banks by Road Sides.

A Pound of fresh gathered Ground Pine, distilled in a Retort, yields first about two Ounces of a colourless Phlegm, of an aromatic Smell and Taste. After this comes over a larger Quantity not less than nine or ten Ounces of a Liquor limpid and colourless at first, but afterwards brownish, and of an empyreumatic Smell ; this is of an acid and very austere Taste. After this

this there rises about three Drams, of a brownish Liquor highly impregnated with a volatile urinous Salt, and about the same Quantity of a thick and fattish Oil. The Remainder in the Retort, calcined in an open Fire and lixiviated, yields only a very small Quantity of a fixed alkaline Salt, and that not of the alkaline, but of the *Sal Salsus* Kind.

Ground Pine is highly extolled, by the Generality of the medical Writers, as an aperient, cephalick, and nervine Medicine. It is certainly of a very peculiar Smell and Taste, and those of such a Kind as seem to indicate peculiar Virtues. It is however very little used at present, and is kept in the Shops merely as an Ingredient in the *Theriaca*, and some other of the officinal Compositions.

CHAPTER XXVIII.

SALVIA,
Sage.

SAGE is of the Class of the *Didynamia Gymnospermia* of *Linnaeus*, and of the *Herbæ verticillatæ* of *Ray*. There are many Species of it, but there are only two of them used in our Shops. These are distinguished there by the Names of *Salvia hortensis major*, and *Salvia hortensis minor*. We usually distinguish them in *English* by those of common Sage or red Sage, and Sage of Virtue. The first is the *Salvia latifolia* of *J. Baubine*, the *Salvia major* of *Parkinson*, and the *Salvia vulgaris* of most other Authors.

The other is the *Salvia minor aurita et non aurita* of *C. Baubine*, the *Salvia minor sive Quinata* of *Parkinson*, and the *Salvia minor* of other Authors.

The common or red Sage is a stout and robust Plant; it grows to a Foot or more in Height. Its Stalks are square and of a purplish brown Colour, very firm and woody, and covered with light Hairiness; they are divided into Branches, and these, while young, have less of the deep Colour than they afterwards acquire. The Leaves stand in Pairs; they are large, rough, and hairy; they stand on moderately long Footstalks, and usually are of a brownish or reddish Colour. The Flowers are of the labiated Kind, very large and wide open; they are of a beautiful blue Colour, and stand in brown striated Husks. These, when the Flower is fallen, become a Kind of Capsules, containing each four small and dark coloured Seeds. The Root is moderately large, and very hard and woody; it sends out a Multitude of Fibres. The whole Plant has a fragrant Smell, and a very aromatic and agreeable Taste.

A Pound of fresh gathered red Sage, distilled in a Retort, yields first about three Ounces of a limpid Phlegm, smelling very agreeably of the Plant, and of a somewhat acid Taste. After this come over near ten Ounces of a Liquor still limpid, not smelling of the Sage, but tasting more acid than the former, and in the last Runnings very austere. After this there rises a small Quantity, about half an Ounce, of a brown empyreumatic Liquor strongly austere, and with a volatile alkaline Taste, and a little Acidity. After this there rises a yet smaller Quantity of a brown Liquor totally of the volatile alkaline Kind; after this about two Drams of Oil, partly thick, partly fluid. The Remainder in the Retort, calcined and lixiviated, yields near a Dram of a fixed alkaline Salt.

The common red Sage has always been esteem'd a Cephalic and a Sudorific. An Infusion of it made in the manner of Tea, has been long famous, as the common Drink of People in Fevers. It is attenuant and diuretic; it promotes the Menfes, and is good in Vertigoes, Tremors, Palsies, and in Catarrhs. There used to be kept in the Shops a Conserve, Syrup, and simple Water of Sage, but they are all now out of Use; the dry'd Herb is found to retain its Virtues much better than either of these Forms, and is ready for all Purposes, whether of Powder, Infusion, or whatever.

Sage of Virtue is an Herb much more different from the former in its external Appearance than in its Virtues; it is a much smaller Plant; it seldom grows to more than six or eight Inches high. The Stalks are large and woody, they are brown at the Bottom but green toward the Top; they are very much branch'd, and cover'd with a light Hairiness, and in the green Part they are much softer and tender than in the brown. The Leaves stand in Pairs on the Stalks at the several Joints; there are also a great many usually growing immediately from the Root; they have long Pedicles, and are of an oblong Form, and much narrower than those of the common Sage; they are broadest near the Base, and thence gradually grow smaller to the End, where they terminate in a blunt Point. Just at the Base of each of these Leaves there grow two small Appendages or little Leaves, as it were, one on each Side the Stalk; these are call'd Ears, and the Plant is thence call'd by many, the auriculate Sage; they are not universally found on the Leaves, but they are very common; the whole Leaves are of a pale green Colour, not serrated at the Edges, very rough, and of considerable Thickness, and of a very agreeable Smell. The Flowers are of the labiated Kind, and blue like those of the common Sage, but smaller; the Cups are striated in the same manner, and remain after the Flower is fallen: They serve as Capsules for the Seeds, each containing four.

The Principles of this Sage, on Analysis, are much the same with those of the former, and its Virtues and Uses the same. Its Name Sage of Virtue has made many prefer it to the common Sage, for the making Tea for People in Fevers; but the more agreeable Flavour of the common Kind, and the pleasant Colour of the Infusion, when a little Lemon Juice is added, have of late restored it into general Use again.

CHAPTER XXIX.

B E T O N I C A, *Wood Betony.*

B E T O N Y is one of the *Didynamia Gymnospermia* of *Linnaeus*, and one of the *Herbæ verticillatæ* of *Mr. Ray*. It is described by *G. Bauhine* under the Name of *Betonica purpurea*, and by the other botanical Writers under that of *Betonica sylvestris*, and *Betonica vulgaris*.

It grows to about a Foot in Height; its Stalk is square, erect and hollow, of a brownish green, and sometimes of a purplish Colour, and is jointed at two or three Places very distant from one another, the Middle of the Stalk being all smooth: At every Joint there are placed two Leaves, and there are a number
of

of others of the same Figure growing from the Root about the Base of the Stalk. These are of an oblong Figure, broad at the Base and somewhat auriculated, and they terminate in an obtuse Point; they are crenated round the Edges, and are of a dusky, unpleasant green Colour, and very rough and hairy. They have somewhat of an aromatic Smell, and a plainly aromatic Taste. The Flowers are of the labiated Kind, and are placed in close and short Spikes at the Tops of the Branches; they are of a bright red Colour, moderately large, and have the upper Lip furrow'd and bent a little back, and the lower divided into three Segments. The Cup is rough and is divided into five Segments at the Edge, this remains after the Flower is fallen, and becomes a Kind of Capsule, containing four roundish and brown Seeds. The Root is large and thick, it creeps under the Surface of the Ground, and sends out many Fibres. It is of a bitter and disagreeable Taste, with somewhat austere in it.

The Plant is common with us in shady Woods, and sometimes in more exposed Places.

A Pound of fresh gather'd Betony, distill'd in a Retort, yields first about two Ounces of a limpid and colourless Phlegm, smelling strongly of the Plant, and of a subacid Taste: After this come over about nine Ounces of a Liquor, at first limpid and colourless like the former, but of a more strongly acid Taste; then reddish, of a sharp Smell, and a very acid Taste; and finally, in the last Runnings, very acerb and austere, as well as very acid: After this comes over about half an Ounce of a reddish and very empyreumatic Liquor, partly acid and austere, partly of a volatile urinous Kind, and finally near two Drams of Oil. The Remainder in the Retort, calcin'd in an open Fire and lixiviated, yields near a Dram of a pure fix'd alkaline Salt.

Betony is aperient, discutient and attenuating; it is famous in Diseases of the Head and Nerves, and that not without sufficient Cause, for many very great Cures have been perform'd in the Country Places where it abounds, with this Herb alone: It is also good in all Obstructions of the Viscera. Authors speak of an anodyne and narcotic Virtue in it, and *Pauli* relates a Story of some Women employ'd in digging up and transplanting the Roots of it, who were rendered drunk, as it were, by it, and thrown into a thousand ridiculous Gestures, as if by the Effect of a Dose of Opium, or of immoderate Drinking: And *Bartholine* countenances this, by a similar Story of some Gardiners, who were all made, as it were, drunk by the Effluvia of this Plant.

It is a disputed Point whether the Leaves or the Flowers of Betony have the greater Efficacy, but the general Custom is to use them together. The best Way of taking Betony is in a slight Infusion made in the manner of Tea.

The Leaves and Flowers dry'd and powdered make an excellent Sternutatory, which is of great Service in Head aches, and many other Disorders of the Head and Nerves. Many People are also very fond of the external Use of the Leaves in Form of a Cataplasm apply'd to the Forehead as a Cure for the Head-ach.

The Roots of Betony differ extremely from the Plant, they are of a very nauseous Taste, and are apt to cause Reachings to vomit, if taken only in very small Quantity. We used to keep a simple Water, Conserve and Syrup of Betony in the Shops, but they are all now disused, and the dry'd Herb alone kept there.

CHAPTER XXX.

MAJORANA,
Marjoram.

MA R J O R A M is one of the *Didynamia Gymnospermia* of *Linnaeus*, and one of the *Herbæ verticillatæ* of *Ray*. It is described by all the botanical Writers under the Name of *Majorana vulgaris*, *Majorana vulgaris æstiva*, and *amaracus*. It is a small but pretty Plant; it grows to about six or eight Inches high, sometimes more, though rarely. Its Stalks are firm and hard, and of a pale brownish green Colour, sometimes reddish. The Leaves are small and stand in Pairs, they are oblong and of a whitish green Colour, hoary and of a very fragrant Smell and aromatic Taste. Toward the Tops of the Branches there appear certain imbricated roundish Heads of a pale Colour, somewhat resembling those of *Origanum*; these are composed of four Series of Leaves, laid in Form of Scales regularly over one another. The Flowers appear from the *Alæ* or Sinus's of these, and are very small, white and of the labiated Kind. The upper Lip of these is erect and bifid, the lower one is divided into three Segments. The Cup remains after the Flower is fallen, and then serves in the Place of a Capsule to contain four small Seeds, of a roundish Shape and brown Colour, which succeed every Flower. The Root of this Plant is small and fibrous; it is not a Native of *England*, but is cultivated abundantly in our Gardens. Sweet Marjoram distill'd by the Retort yields first a limpid and colourless Liquor of the Smell and Taste of the Plant, and with some Drops of the essential Oil floating on it; and beside the Flavour of the Plant having also a saline, and toward the End a considerably strong acid Taste. After this comes over a small Quantity of a brownish Liquor, of a very acid, austere and saline Taste, and of a strongly empyreumatic Smell; after this there rises a third Liquor, still more brown and empyreumatic, but very strongly impregnated with a volatile alkaline Salt; and afterwards a few Grains of the same volatile Salt in a concreted Form, and a moderately large Portion of a thick Oil; after a smaller Quantity of a fine thin and fluid one. The Remainder in the Retort, calcin'd in an open Fire and lixiviated, yields a small Portion of a fix'd alkaline Salt.

The whole Plant is very fragrant, and very acrid to the Taste; it is attenuant, dissolvent, and detergent; it is sometimes mixed with our Foods, and that very properly when they are such as would occasion Flatulencies. It is good in nervous Cases, and in Disorders of the Breast and Lungs, arising from a viscous Phlegm. It moderately promotes the Menses, and the Discharges by Urine and Perspiration; and is good in Obstructions of the Liver and Spleen. Many have given it great Commendation for the recovering of lost Smell, and *Hartman* declares it the greatest of all Medicines in this particular Case. Its flowery Tops dry'd and powder'd, and given a Scruple for a Dose, are greatly recommended in epileptic Cases, and we are told of Cures perform'd singly by it. There used to be a simple, and a compound or spirituous Water of sweet Marjoram kept in the Shops, but at present they are wholly disused, and the dry'd Plant only kept there; this powder'd makes an excellent Sternutatory, and the Juice

Juice of the fresh Plant has the same Effect. This Plant carefully dry'd and distill'd in the usual Way in the Alembic, yields a very fragrant Oil, which on being rectify'd by a new Distillation, leaves a large Portion of resinous Fœces behind it, and is then extremely thin, light and fragrant, and is greatly commended by *Hoffman* in paralytic and nervous Cases of all Kinds; as well internally taken on Sugar, as externally used by way of Liniment. Rubb'd on the Head it is said by *Etmuller* to recover the Sense of Smelling when lost, and to be one of the best Applications in the World to remedy that stuffing up the Nostrils, so common with Children while they suck, and so troublesome to them in sucking.

C H A P T E R XXXI.

M A R U M,
Herb Mastich.

M A R U M is one of the *Didynamia Gymnospermia* of *Linnaeus*, and of the *Herbæ verticillatæ* of Mr. Ray. The Name is given to two Plants, the one call'd *Marum verum*, and *Marum cortusi*, not used in our Shops, though the officinal *Marum* of several other Parts of *Europe*; the other, which is the *Marum* in Use with us, is the *Marum vulgare* or common Herb Mastich. The *Marum Mastichen redolens* of C. Baubine, the *Marum Mastich Gallorum et Anglorum* of Lobel, and the *Thymbra Hispania majoranæ folio* of Tournefort.

It is a very pretty Plant, though a small one; it seldom grows to more than five or six Inches high; its Stalks are hard and woody, and very much branch'd. Its Leaves are very small, oblong and pointed, in Shape resembling those of the common *Serpyllum* or wild Thyme, and very woolly or downy. They are of a very acrid Taste, and of a fragrant and somewhat resinous Smell, resembling that of Mastich. The Flowers grow in little Tufts on the Tops of the Branches, and a little below them; these Tufts or Heads are woolly, and the Flowers which issue from them are very small, of a white Colour and labiated Form: The upper Lip is erect and divided into two Segments, the lower one is divided into three. The whole Plant has an extremely fragrant Smell, but particularly these Heads: Four small Seeds succeed every Flower, and are safely lodg'd in the Cups the Flowers stood in, which are immers'd in these Heads. The Root is small and fibrous. The Plant grows wild in *Spain* and *Italy*, but with us it requires some Care to make it thrive well in a Garden.

It is an agreeable Aromatic, but a very acrid one; and has also an Astringency in it greater than most of the Plants of this Class. Distill'd in a Retort it yields a Liquor colourless in the first Runnings, but afterwards brown; this is at first of an agreeably aromatic Smell and Taste, but afterwards it becomes acid, and toward the last Runnings austere: After this comes over another Liquor in much smaller Quantity, reddish and very acid, austere and saline; then a yet smaller Quantity of a Liquor still brownish, and impregnated with a volatile urinous Salt; and finally a moderate Quantity of Oil, part of it thin and Fluid, part thick and like Lard, but blackish. The Remainder in the Retort, calcin'd in an open Fire and lixiviated, yields a large Portion of a fix'd alkaline Salt, not less than a Dram and a half from the Pound.

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The other Kind of *Marum*, called the true *Marum*, and *Marum Cortusi*, in the Shops is the *Thymbra maritima incana frutescens foliis lanceolatis* of *Tournefort*, and the *Trago origanum latifolium* of *C. Bauhine*. It is a larger Plant than the former, it grows to a Foot high, its Stalks are firm and heavy, its Leaves are of an oval Figure and pointed at the End; they are a third of an Inch in Length, and two thirds of that in Breadth, of a pale green Colour on the upper Side, and hoary underneath; their Smell is strongly aromatic, and so pungent, that it often occasions sneezing. The Taste is very acrid and aromatic; the Flowers stand in the *Alæ* of the Leaves, and greatly resemble those of the common *Chamædrys*, or *Germander*; they are red, and of the labiated Kind, but without the upper Lip, the *Stamina* growing in the Place of it. The Flower is succeeded by four Seeds, which the Cup remaining after the Flower is fallen serves as a Capsule for,

It is frequently wild in some Parts of *Spain*, in other Places it is cultivated in Gardens, to supply the Demand in the Shops. Its Principles on Analysis are much the same with those of the common *Marum*, and the Virtues ascribed to both by Authors agree as well. *Minderery* and *Wedelius* have written particular Dissertations on the Virtues of *Marum*; they call it an aromatic of the very first Class, and speak very largely also of its Virtues as an Attenuant and Dissolvent. They recommend it greatly as a Diuretic, and as a Stomachic and Carminative, and give it great Praise in all Obstructions of the Viscera. At present however it is with us in very little Use; it is kept dry'd in the Shops as a Sternutatory, and when rubbed to Powder it proves a very powerful one. It is also an Ingredient in the *Trochisci Hedichroi*, which enter the Composition of the *Theriaca*.

CHAPTER XXXII.

ELATINE, Fluellin.

ELATINE is one of the *Didynamia Angiospermia* of *Linneus*, and of the *Herbæ fructu sicco singulario flore monopetalo* of *Ray*. It is the *Linaria segetum Nummulariæ folio villoso* of *Tournefort* and *Ray*. The *Elatine folio subrotundo* of *C. Bauhine*. It is a low and weak Plant, the Stalk is round, hairy, and tender; it scarce rises to more than four Inches in Height. The Leaves are of an irregularly oval Figure, largest near the Base and terminate in a Point; they are of a greyish green Colour, very soft to the Touch, and smooth, or very little dentated at the Edges; they stand on short Footstalks and are placed alternately on the Stalks. From the *Alæ* of the Leaves there arise single Pedicles very slender, about an Inch in Length, and supporting each a small Flower of the Shape of that of the common *Linaria*, or *Toad-flux*, with a long and slender Spur or Heel behind. The Seed-vessel is roundish, and is divided by a Membrane into two Cells, containing a Number of very small roundish Seeds. The Root is small and thin, it penetrates perpendicularly into the Ground, and has a few Fibres annex'd to it. The whole Plant has a very bitter and astringent Taste, and a very particular Smell, not very agreeable. It grows wild in our Corn Fields in very great Abundance.

A Pound of fresh gather'd Fluellin, distill'd in a Retort, yields first about

two

two Ounces and a half of a limpid and inodorous Phlegm, of an obscurely acrid Taste; after this come over about ten Ounces of a Liquor limpid and colourless in the first Runnings, but brownish toward the latter Part: this is at first of a very acid Taste, but toward the last Runnings it becomes austere and rough. After this come over about three Drams of a brownish Liquor, strongly impregnated with a volatile urinous Salt; and finally a little more than a Dram of Oil, partly thin and fluid, partly thick and coarse. The Remainder in the Retort, calcined in an open Fire, till the Ashes no longer sparkle on stirring, and then lixiviated with Water, yields about half a Dram of a fix'd alkaline Salt.

Elatine is greatly recommended by the Medical Writers as an Aperient, Resolvent, and Vulnerary. The simple Water, distill'd from the fresh Herb has been used to be employed for these Purposes, but it retains very little of the Virtues of the Plant: The Infusion is much better, or the express'd Juice is still preferable to that. It is greatly extoll'd by some in leprous and scrophulous Cases; it has been also used externally to cancrus and other eating Ulcers; an Ointment made of it for the same Purposes, and for the remedying all cutaneous Foulnesses; at present however the Plant is very little used.

C H A P T E R XXXIII.

MERCURIALIS, *Herb Mercury.*

THE *Mercurialis* of the Shops is one of the *Pentandria Digynia* of *Linnaeus*, and one of the *Herbæ flore apetalæ sive stamineæ* of *Ray*. *Tournefort* has described it under the Name of *Chænopodium folio triangulo*, *C. Bauhine* under that of *Lapathum folio triangulo unctuosus*, and *Tragus* under that of *Rumex unctuosus*; others have called it, *Bonus Henricus*, *Tota Bona*, and *Spinachia Sylvestris*.

It grows to a Foot or more in Height, the Stalks are often longer than this, but they are apt to be in Part procumbent; they are striated, hollow, and yet very firm and tough, and are of a greenish Colour, with more or less of a purplish Cast in it. The Leaves are large and of a Sort of triangular Figure; they are broad and aurited at the Base, and decrease in Breadth gradually to the Point, which is sharp and long. They are of a yellowish green on the upper Side, but underneath they are cover'd with a grey Powder very unctuous to the Touch. These stand on considerably long Pedicles, and are placed alternately on the Stalks. The Flowers stand in Spikes at the Tops of the Stalks, and are small, and composed of a Multitude of yellowish *Stamina* arising out of a greenish Cup, divided into many Segments. The Seed is small, flat, and rounded in its Shape, but with a Depression in one Part that gives it something of the Figure of a Kidney. These are black when ripe, and they stand in the Cups of the Flower, which remain as a Sort of Capsules for them. The Root is thick and firm, of a yellowish Colour, and a bitter and disagreeable Taste.

The Plant is very common with us in uncultivated Places, and on dry Banks, and sometimes about the Bottoms of old Walls.

378 PELLITORY OF THE WALL.

A Pound of the whole Plant fresh taken up with its Roots and Seeds, distill'd in a Retort, yields first about three Ounces of a limpid Phlegm of an herbaceous Smell and Taste, and somewhat faintly acid; after this about eight Ounces of a Phlegm of the same Smell and Taste with the former, but intensely acid withal; then a small Quantity of a reddish empyreumatic Liquor of a strongly acid, austere, and saline Taste; after this a small Quantity also of a reddish empyreumatic Liquor, strongly impregnated with a volatile, alkaline Salt; and finally about two Drams of a coarse thick Oil. The Remainder in the Retort, calcined in an open Fire and lixiviated, yields nearly two Drams of a pure fix'd alkaline Salt.

This Plant is of an emollient Nature, and is eaten by many People in the manner of Spinach, which when cultivated in a Garden it greatly excels; when wild and in Places where it has less Nourishment it is not so tender. The Spikes of Flowers before they open are the finest Part of this Plant. If eaten largely, it gently opens the Bowels. A Cataplasm of the Leaves is greatly recommended in Pains of the Limbs, in Tumors, and even in Ulcers, which it cleanses and greatly disposes to heal. The poor People in country Places use it as a Cataplasm for the Rheumatism, and even for the Gout, and that without Danger and with great Success. In the Shops it is principally kept as an Ingredient in Decoctions for Glysters.

CHAPTER XXXIV.

PARIETARIA, *Pellitory of the Wall.*

PARIETARIA is one of the *Polygamia Monoecia* of *Linnaeus*, and one of the *Herbæ flore imperfecta sive stamineo* of *Ray*. It is the *Parietaria Officinarum* & *Dioscoridis* of *C. Baubine*, and the *Parietaria vulgaris* of the Generality of other Authors. It is a robust Plant, its Stalks are round and woody, of a brownish Colour, and grow to a Foot or more in Height; they are slightly hairy, and are very hard. The Leaves stand alternately on these at half an Inch or more Distance; they are of an oblong Figure, broadest in the middle, small toward the Base, and terminate in a sharp Point; they stand on Pedicles of a quarter, or sometimes half an Inch long, and have usually young Branches growing from their *Axæ* toward the lower Part of the Plant; they are of a dusky green, and a little hairy: The Flowers grow in little Clusters at the Insertions of all the upper Leaves; they are of the stameneous Kind, and are succeeded each by a single Seed, to which the Cup serves as a Receptacle. The Root is slender, long and furnish'd with many Fibres. It is a common Plant with us on old Walls.

A Pound of fresh gather'd Pellitory of the Wall, distill'd by the Retort, yields first between ten and eleven Ounces of a Liquor, the first Runnings of which are limpid and colourless, the latter somewhat turbid and whitish, and of a strongly and remarkably saline Taste; after this comes over another Liquor, the Quantity about two Ounces and a half, this is colourless in the first Runnings, but afterwards brownish, at first of a saline, but afterwards of an acid Taste; after this comes over an Ounce of a more brown and empyreumatic

matic Liquor, fated with a volatile alkaline Salt; and finally about a Dram and a half of a thick Oil, and a few Grains of a volatile alkaline Salt in a concreted Form, affixes itself to the Receiver. The Remainder in the Retort, calcined in an open Fire and lixiviated, yields about a Dram of a fix'd alkaline Salt.

Parietaria is esteemed an Attenuant and Abstergent, and with these Qualities it has an after Astringency which renders it peculiarly proper in many Cases. It is given in Obstructions of the Viscera, and in Suppressions of Urine. It is a very common Ingredient in Decoctions for Glysters, and particularly in such as are given in Nephritic Cholicks. Externally a Fomentation of it is recommended in hard Tumors and to cleanse foul Ulcers.

CHAPTER XXXV.

CEPA,
The Onion.

THE *Cepa* or Onion is one of the *Hexandria Monogynia* of *Linnaeus*, and of the *Herbæ radice bulbosa præditæ* of *Ray*. There are several Species of it used at our Tables, but the only one retain'd in the Catalogues of medicinal Simples, and always understood under the Term *Cepa*, in medical Writers, is the common Onion. The *Cepa vulgaris*, or common Onion of our Gardens, the *Cepa Vulgaris floribus & tunicis albis vel purpurascentibus* of *C. Bauhine*, *Cepa Rotunda Alba & Rubra* of *J. Bauhine*. The Leaves of this are long and tubular, of a rounded Figure, swelling in the middle and terminating in a Point; they are a Foot or more in Length, of a dark green Colour, of a strong and disagreeable Smell, and of an acrid Taste. The Stalk grows to four Feet or more in Height, it is hollow like the Leaves, and swells out in the middle, and is smaller toward each End; the Flowers grow at the Top of this Stalk in a globular Cluster, they are not large, and are either of a whitish or purplish Colour; the Seed Vessel which succeeds these is round, divided into three Cells, and fill'd with black, and somewhat roundish, but angular Seeds. The Root is round, and is composed of a vast Number of Coats surrounding one another; the internal ones are white and fleshy, the external usually reddish, sometimes whitish, and thin as Paper; the general Figure of the whole Root is usually approaching to round, sometimes however it is oblong, and sometimes flatted: A Number of Fibres moderately large grow from the Base of this Root. A Pound of Onion, the Root, Leaves and Stalks, distill'd in a *Balneum Vaporis*, yields first a limpid Liquor smelling strongly of the Plant, and of a somewhat saline Taste, in Quantity between five and six Ounces; after this comes over a more saline and obscurely acid Liquor, the Quantity about seven Ounces. The Remainder of this Distillation put into a Retort and urged with a stronger Heat, first yields about five Drams of a reddish Liquor of a saline and somewhat austere Taste, and afterwards about one Dram of a brown and very empyreumatic Liquor, containing a volatile alkaline Salt, but having some Acidity with it, and near a Scruple of a volatile alkali Salt in a concreted Form. Finally there come over about two Scruples of a fatty Oil, and the Remainder

in the Retort, calcined in an open Fire and lixiviated, yields but about twelve Grains of a fix'd alkaline Salt.

Onions are much eaten, and it would be well if they were yet more so; they attenuate tough and viscous Humours, and cleanse the Stomach, and excite an Appetite; they are very powerfully diuretic, and in some Degree promote the Menfes; but they are apt to breed Flatulencies, and if eaten too largely to affect the Head and disturb the sleep afterwards; they tend to loosening the Bowels, but do not exert that Quality unless eaten largely. A Syrup of Onions made from a strong Decoction of them with Honey is an excellent Medicine in Asthmas of the moist Kind, and in all Disorders of the Breast, in which a tough and viscous Phlegm is the Cause; and either this Syrup, or a simple Infusion may be taken as a Diuretic, and will be found to have considerable Effect. It has the Credit of being good also in Pestilential Disorders, both as a Preservative and a Cure. Some have a way of roasting an Onion, which has been hollow'd in the middle, and the Cavity fill'd with Venice Treacle; but there may be better ways of giving the latter Medicine, an Onion boil'd to a perfect Softness is recommended by many as a Cataplasm for the ripening of Pestilential Bubos.

People frequently use Onions as a Cure for Baldness, rubbing the Part where they would have the Hair grow again Night and Morning with a fresh cut Onion till it become red and itch; this repeated for some time often is found to succeed. A Mixture of equal Parts of the Juice of Onions and Spirit of Wine is good against Deafness, a few Drops of it being put at times into the Ears; and an Onion cut in two and macerated an Hour or more in the same Spirit is a good external Application in Head aches. A Cataplasm of roasted Onions and Butter is an excellent external Application for the Piles.

C H A P T E R XXXVI.

L U J U L A,
Wood Sorrel.

L U J U L A is one of the *Decandria Pentagynia* of *Linnaeus*, and is arranged among the *Herbæ Pentapetalæ* of *Ray*. It is described by all the botanical Writers under the Name of *Lujula vulgaris*, *Oxys flore albo*, and *Trifolium acetosum flore lacteo*. In the Shops it has been called beside *Lujula*, *Alleluia*, *Oxytriphylum*, and *Panis Cuculi*.

It is a very small Plant; its Root is thick and of an irregular Surface, appearing as if scaly. It is sometimes white, sometimes reddish in Colour, and creeps horizontally under the Surface of the Ground. It sends out a Multitude of Fibres of a whitish Colour, and from its upper Part there arise also a Number of thin and weak Pedicles; they are round and of a green or fine red Colour, sometimes in Part variegated with both, sometimes entirely red, or entirely green. These are about three Inches long, and on the Tops of them stand the Leaves; they are placed three on each Pedicle; they are broader than they are long, very thin and tender, and of a pale green Colour, very smooth, and indented in Manner of a Heart at the End; they are of an extremely

tremely pleasant acid Taste. Among these rise up other Pedicles, which sustain each a single Flower, which is considerably large, white, very thin and tender, and composed of a single Petal, so deeply divided into five Segments as generally to have been mistaken for a pentapetalous Flower. The Cup of the Flower is short, the Seed Vessel which succeeds each Flower is of a pentagonal Form, and contains in five separate Cells, a great Number of small Seeds, which when ripe fly out with great Violence on touching the Pod. It is frequent with us in Woods and about the Stumps of old Trees, in the Bottoms of shady Hedges.

A Pound of the fresh Leaves of *Lujula* with their Stalks, distilled in a Retort, yields first between five and six Ounces of a colourless and limpid Phlegm, of an herbaceous Smell and Taste, but with it somewhat saline and urinous. After this come over between seven and eight Ounces of a Liquor as colourless and limpid as the first, smelling and tasting of the Herb, and not of the saline and urinous Taste of the former, but at first moderately acid, and afterwards more and more strongly so. After this comes over a small Quantity, not more than a Dram and a half, of a brownish Liquor impregnated pretty strongly with a volatile urinous Salt. Then rises a small Quantity of volatile Salt, about nine or ten Grains, in a dry Form; and finally about two Drams of a thick and opake Oil. The Remainder in the Retort, calcined and lixiviated, yields about half a Dram or hardly so much of a fixed alkaline Salt.

The Juice of the Leaves of this little Plant is so strongly acid that it turns the Syrup of Violets red, and on mixing with Oil of Tartar makes an Effervescence, and produces an urinous Smell. The dried Plant thrown on a clear Fire makes a Kind of slight Detonation in the burning, which proves that it obtains a Salt approaching to the nitrous Kind.

It is a very grateful Acid, and in Fevers quenches Thirst, and takes off the Heat of the Stomach. It is recommended in Fevers of all Kinds, and in the Scurvy, and also in Obstructions of the Liver and other *Viscera*. It is sometimes given in Decoction in Fevers, and the expressed Juice is mixed with the Juices of the other antiscorbutic Plants, when intended against the Scurvy. Externally it is much recommended against inflammatory Eruptions of all Kinds in Decoction, which is to be used by Way of Fomentation. There used to be a Syrup and a distilled Water of *Lujula* kept in the Shops, but at present they are rejected, and only the Conserve is retained.

CHAPTER XXXVII.

MALVA,

The common Mallow.

THE Mallow is one of the *Monadelphica polyandria* of *Linnaeus*, and of the *Herbæ Semine nudo Polyspermae* of *Ray*. There are a great many Species of it, but the only one in Use in our Shops is the common wild Kind, the *Malva vulgaris* of *Ray* and *Parkinson*, *Malva Sylvestris folio sinuato* of *C. Baubine*, and *Malva Sylvestris major* of *J. Baubine*. Some for its numerous Virtues have called it *Omnimorbia*, a Remedy for all Diseases.

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It grows to three or four Feet high. The Stalks are round, hollow, somewhat hairy, and of a pale green or purplish Colour, or variegated with both; they are very much branched, and full of Leaves and Flowers. The Leaves stand on long Pedicles, they are of a roundish Figure; those which grow on the Stalks are more lacinated, those which rise immediately from the Root more entire; they are of a deep green Colour and somewhat hairy. The Flowers are large and handsome, they stand on moderately long Foot Stalks which are hairy and of a pale green; they are purplish with Streaks of white or of a pale reddish Colour, and are of a mucilaginous and not unpleasant Taste. These are each succeeded by a great Number of Seeds of a Kidney-like Shape, which are arranged together in a circular Form, and are firmly held in their Places by the remaining Cup of the Flower. The Root is long and moderately large; it penetrates directly perpendicular into the Earth, and has but few Fibres; it is of a sweetish mucilaginous Taste, not disagreeable. All the rest of the Plant has indeed the same Taste, but is no where so pleasant as in the Root, except in the Flower.

The Roots and Leaves of the common Mallow, distilled by the Retort, yield first a limpid and colourless Phlegm of an obscurely acid Taste, otherwise insipid, and without Smell. After this comes over another Liquor limpid and colourless, but of a more strongly acid, and toward the last Runnings of a very austere Taste. After this there comes over a very small Quantity of a brown empyreumatic Liquor highly impregnated with a volatile alkaline Salt, and after this a thin, and finally a coarse and thick Oil, both in considerable Quantity. The Remainder in the Retort, calcined in an open Fire, yields a large Proportion of a fixed alkaline Salt by the common Process of Lixiviation.

Mallow Leaves were for many Ages eaten boiled in the Manner of Spinach; but we have at present so many better tasted Plants for the Service of the Table, that this is wholly left to the Shops. The fresh Roots are used as a Diuretic and Emollient, and the dried Leaves as an Ingredient in Clysters, and in emollient Fomentations and Cataplasms. The Ancients gave the Juice of the Mallow in large Doses in Inflammations and Obstructions of the *Viscera*. A strong Decoction of Mallow Root is apt to be too mucilaginous and to sit ill upon the Stomach; but a light Infusion in the Manner of Tea agrees very well, and has very good Effects in many Cases.

It is a good common Drink in Pleurifies, Peripneumonies, and peculiarly in Cases of Gravel or Inflammation of the Kidneys, and in Stranguries and Suppressions of Urine of all Kinds. A Conserve made of the Flowers will have the same Effect, if Plenty of warm and weak Liquors be drank after it; but the Infusion of the Root is pleasant, and answers the Purpose better than any other Form.

CHAPTER XXXVIII.

MELILOTUS,
Melilot.

MELILOT is one of the *Diadelphia Decandria* of *Linnaeus*, and one of the *Herbæ Flore papilionaceo trifoliata* of *Ray*. It is described by all the botanical

botanical Writers under the Name of *Melilotus vulgaris*, *Melilotus Flore luteo*, and *Melilotus Germanica*.

It grows to about two Feet in Height; its Stalks are slender, round, of a pale green or brownish Colour toward the Bottom, and of a fine strong green Colour towards the Top; they are not hairy, but are striated on the Surface, and are hollow within; they are divided into numerous Branches, and are scarce strong enough to support themselves upright.

The Leaves are placed alternately on the Stalks, and stand three on each Pedicle; these Pedicles are very slender, and an Inch or more in Length; the Leaves are of an oblong Figure, smooth, of a deep green Colour naturally serrated about the Edges, and usually appearing much more jagged there from the Bitings of Insects.

The Flowers grow in long Spikes on peculiar Pedicles, growing from the *Axæ* of the Leaves; they are small, of a beautiful yellow Colour, and of a papilionaceous Form, resembling those of the common Trefoils. They do not stand very thick in the Spike, and consist each of four Petals; they stand on very short Footstalks, and are succeeded by short Pods which hang pendulous from the Pedicles, and are rough on the Surface, and are not contained within the Cup, as is the Case in the Generality of the Trefoils. They grow black when ripe, and each contains one or two Seeds of a roundish Figure and yellowish Colour, and of a leguminous Taste. The Roots are white, tough, and very long, penetrating deep into the Earth, and furnished with a great Number of short Fibres from almost every Part; so that they take in a great deal of Nourishment. The whole Plant is of a strong and to some People a disagreeable Smell.

A Pound of Melilot fresh gathered, at the Time when it is in Flower, and distilled by the Retort, yields first about five Ounces of a clear and colourless Liquor smelling strongly of the Plant, and of a bitter and acrid Taste, with an obscure saline and acid one. After this there come over between eight and nine Ounces of a Liquor still clear and colourless, more bitter than the former, and more acrid as well as more evidently acid, and towards the last Runnings very austere. After this comes over a small Quantity, not more than three Drams, of a brownish empyreumatic Liquor, impregnated with a volatile alkaline Salt, and about twelve or fourteen Grains of the same volatile Salt in a concreted Form; and finally about three Drams of a thick Oil like Treacle. The Remainder in the Retort, calcined and lixiviated, yields about half a Dram of a fixed alkaline Salt.

Melilot is scarce ever given internally, but externally used it is a great Emollient, Resolvent, and Digestive. It is a good Ingredient in Cataplasms and Fomentations of this Intention, and in Clysters. It used to be an Ingredient in the Plaister employed in dressing Blisters, but its Virtues in that Form being very little, and the green Colour expected from it easily counterfeited with Verdigrise, it is now left out of that Composition. The Flowers are recommended by some in Infusion, in the Manner of those of Camomil, as a Remedy for the *Fluor Albus*.

CHAPTER XXXIX.

COCHLEARIA,
Scurvygrafs.

SCURVYGRASS is one of the *Tetradynamia Siliculosa* of *Linnaeus*, and one of the *Herbæ Flore tetrapetalo Siliculosæ* of *Mr. Ray*. There are many Species of it; but that which is used in our Shops is the common round-leaved Kind, the *Cochlearia folio subrotundo* of *C. Baubine*, the *Cochlearia major Batavica folio subrotundo* of *Morison*, and the *Brittanica* of *Gesner*.

It is a low Plant, the Leaves, which rise immediately from the Root, are numerous; they are of a roundish Shape and dark green Colour, about an Inch in Diameter, and somewhat hollow in the middle, so as to resemble a Spoon; they stand on Pedicles of three or four Inches long, and are very succulent and thick, and of an acrid, pungent Taste, and a strong but disagreeable Smell. The Stalks rise up among these, and are succulent and juicy also; they are eight or ten Inches long or more, but are not erect but procumbent in the lower Part, and are furnished with Leaves not exactly resembling those of the Bottom Cluster, but somewhat oblong, jagged at the Edges, and joined immediately to the Stalk without any Pedicles. The Flowers are small and white, and are succeeded by little round membranaceous Capsules, in which are contained a Number of Seeds lodged in two separate Cells.

The Root is white and full of Fibres. The Plant is all of it of the same acrid and pungent Taste with the Leaves.

A Pound of fresh Scurvygrafs, distilled in a Retort, yields at first a Phlegm, the first Runnings of which are whitish and milky; but what follows is clear and limpid. The first Running of this is acrid and pungent, and has the Smell and Taste of the Plant; what comes afterward is less acrid, and has a sowerish Taste; the whole of this Phlegm is between eight and nine Ounces. After this there comes over a Liquor colourless at first, but afterwards of an empyreumatic Smell and brownish Colour, in Quantity about two Ounces and a half; the first Runnings of this are acid, but afterwards it becomes less acid and very austere. This is succeeded by an extremely small Quantity, scarce more than a Dram of a reddish empyreumatic Liquor, highly sated with an alkaline volatile Salt, and this by near a Dram and half of a thick Oil like Lard. The Remainder in the Retort, calcined and lixiviated, yields about four Scruples of a fixed alkaline Salt.

The acrid Taste of this Plant appears, by this Analysis, not to depend principally on its Salts, as has been generally understood, but on a peculiar light, fine, and extremely pungent Oil, which is one of the first Things that rise in the Distillation, and gives a turbid Look and white Colour to the Water that first comes over, a Circumstance very singular in the Analysis of this Plant; almost all others, though ever so much abounding in Oil, yielding at first a limpid and colourless Phlegm.

Scurvygrafs is a very powerful Attenuant and Resolvent, and on that Principle it is an excellent Medicine in all Diseases arising from a viscid State of the Fluids, and particularly in the Scurvy, which it is so famous for its Vir-

tues

tues against, as to have obtained its Name from them. It is a common Error to give this Plant in Decoction, for a great Part of its volatile Principles are lost that Way. The expressed Juice is much better than this, and the eating the whole Herb by Way of Salad is best of all. The Herb when dried has scarce any Virtue, an Extract has been by some recommended as a good Way of concentrating its active Parts; but it is easy to see that they must needs be all lost in the Operation. Ray recommends an Infusion of it in Malt-Liquor, as a common Drink for scorbutic People; but he observes, that it should not be left in it more than two or three Days, which is Time enough for the extracting its finer Parts, and that the rest rather clog and hurt than do any good.

It is to be observed that the Scurvy is a Disease so various in itself, in different Constitutions, that the same Medicine cannot be universally proper in it; and in particular this Plant, though so successful against this Disease under many Circumstances, is yet so improper in others, that it may do much Harm; particularly in those Cases where the Scurvy is attended with a Redness in the Face, Palpitations of the Heart, frequent feverish Heats, Headachs, Purgings, and other such Symptoms; in all these Cases all acrid Medicines do Harm.

The Juice of Scurvygrass is greatly recommended by some for washing the Mouth with, when the Scurvy appears in that Part, and the Gums are tumid and inflamed, and subject to bleed on the least Touch. The Juice may in this Case be used either alone or with a small Admixture of Alum, which greatly increases its Virtue.

C H A P T E R XL.

BECABUNGA,
Brooklime.

BECABUNGA, or Brooklime, is one of the *Decandria Monogynia* of Linnaeus, and of the *Herbæ Flore tetrapetalo Anomalæ* of Ray. There are several Species of it, but only one of them is used in Medicine; this is the most common Kind, and is described by Parkinson under the Name of *Anagallis sive Becabunga major*, by C. Baubine under that of *Anagallis Aquatica major folio rotundo*, and by Tournefort under that of *Veronica Aquatica major folio subrotundo*.

It is a very beautiful Plant when in Flower; its Stalks are round, thick, and succulent, and grow to ten Inches or a Foot in Length; but they do not stand entirely erect, but are procumbent in part, and often take fresh Root at the Joints, where they touch the Ground. They are sometimes single, often branched, and when cut through appear of a fungous or spongy Texture. The Leaves are oblong, rounded at the Ends, and serrated about the Edges; they stand in Pairs, two at every Joint of the Stalk opposite to each other; they are near an Inch long, and smooth on the Surface, and somewhat glossy, of a thick Substance, and of a dark or blackish green Colour. From the *Axe* of these Leaves there arise Pedicles one on each Side; these are three Inches long or thereabout, and are each ornamented with a long Series of Flowers of a beautiful Sky-blue Colour, divided into four Segments at the Edge,

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and

and are succeeded by small Seed Vessels, flat and of a Kind of cordated Form, in which are lodged a number of small Seeds in two Cells. The Root is small and creeping, and of a white Colour. It grows in watery Places with us in great Abundance, and propagates itself extremely quick, by taking fresh Root the Effect of its spreading.

Fresh Brooklime, distill'd in a Retort, yields first about a fourth Part of its Weight, of a limpid and colourless Liquor without Smell, but with an obscurely acid Taste. After this comes more than double that Quantity of a Phlegm, at first limpid and somewhat more acid than the former, then reddish and very strongly acid, and afterwards austere: After this comes a very small Quantity of an empyreumatic Liquor, partly acid and partly impregnated with a volatile Alkali; and finally between two and three Drams of a thick Oil. The Remainder in the Retort, calcin'd and lixiviated, yields about a Dram of a fix'd Salt, but that not of the alkaline but of the *Sal Salsus* Kind.

Authors talk of Brooklime as a powerful Diuretic, and Promoter of the Menses, and some recommend it greatly for the Expulsion of a dead Foetus; but this is talking much at Random, the Herb is of so temperate a Nature that it may be eaten in Spring Sallads against the Scurvy. It is indeed so far from being a hot Medicine, as the Authors who attribute such Efficacy to it affirm, that it always agrees best with, and does most Service to People of hot and dry Constitutions; and in that Kind of Scurvy that arises from the Acrimony of the Salts, and is attended with a broken Texture of the Blood and livid Spots, it is, if continually used for some length of Time, a very admirable Medicine; the common Way of prescribing it for these Purposes is in Form of the express'd Juice, either alone or with the other Spring Juices, as that of Water-Creiss, &c.

A simple Water of Brooklime used to be kept in the Shops, but it was found to possess scarce any thing of the Virtue of the Plant, and is now very justly rejected.

CHAPTER XLI.

NASTURTIIUM AQUATICUM, *Water Cress.*

WA T E R C R E S S is one of the Class of the *Tetradynamia Siliculosa* of *Linnaeus*, and of the *Herbæ flore tetrapetalo Siliquosæ* of *Ray*. It is described by *C. Baubine* under the Name of *Nasturtium Aquaticum Supinum*, and by *J. Baubine* under that of *Sisymbrium*, *Cardamine sive Nasturtium Aquaticum*, and *Gerard* calls it *Nasturtium Aquaticum sive Cratenasium*.

It is a low and procumbent Plant, its Stalk is succulent and tender, of a pale green Colour, striated on the Surface, and procumbent in the lower Part, where it takes frequent Root as it lies upon the Ground. The Leaves stand singly at the Joints, they are of the pinnated Kind, composed of two, three, or four Pairs of *Pinnæ* of an oblong Form, with a larger Leaf at the End.

They are of a dark green Colour, very smooth on the Surface, and of a very acrid and sharp Taste. The Tops of the Stalks and Branches are ornamented with little Clusters of Flowers, which are small and white, and are succeeded by

by long and slender Pods, containing a very small Seed. The Root is long and slender, it creeps under the Surface and sends out a great number of fine Fibres at the Joints. It is extremely common with us in marshy Places, and about the origin of Springs.

Distill'd in a Retort it yields first a large Portion of Phlegm, the first Runnings of which are colourless and limpid, and of an herbaceous Smell, and obscurely saline and subacid Taste; but the latter Runnings brown, very acid, and more austere: After this comes over a small Quantity of a brown empyreumatic Liquor, still more acid and more austere than the former; then a small Quantity of a Liquor brown like the former, but highly impregnated with a volatile alkaline Salt: After this a considerable Quantity of volatile Salt concretes in a dry Form, and a Quantity of a thick and black Oil comes over. The Remainder in the Retort, calcin'd in an open Fire and lixiviated, yields a moderately large Share of a fix'd alkaline Salt.

The young Leaves of this Plant are frequently eaten in Spring as a Sallad: They are not however without very considerable Virtues in Medicine, as may be concluded from the Analysis; the whole Plant is of a very acid Taste, and is a powerful Attenuant and Resolvent. It is recommended as a Kind of Specific in the Scurvy, and is eaten in great Quantities by many with that Intent, and that with very good Success. It is good against all Obstructions of the Viscera, and consequently in Jaundices, and many of the chronic Diseases. It is also a powerful Diuretic and Promoter of the Menses. People have pretended to preserve the Virtues of this Plant in Waters, Syrups, and Conserves, but the very best Way of taking it, is either this of eating it as a Sallad, or drinking the express'd Juice, which it is at present much a Custom with us to do in Spring, with that of Brooklime and some other of the antiscorbutic Plants.

CHAPTER XLII.

APARINE, *Cleavers.*

APARINE is one of the *Tetrandria Monogynia* of *Linnaeus*, and of the *Herbæ Stellatæ* of Mr. Ray. It is well known among us by the Name of Cleavers, and is described by all the botanical Writers under the Name of *Aparine Vulgaris*, *Aparine Major*, *Asperuge*, *Spargula Lappago* and *Philanthropos*. It grows to two or three Feet in Height, but is so weak in the Stalk that it cannot support itself erect, if it have not the Advantage of growing among Bushes. Its Stalks are slender, succulent and square, very rough on the Surface, so as to lay hold of any thing they touch, hollow within, and usually bending several Ways; they have a sort of Knots or Joints at an Inch or two Distance, and at every one of these a number of Leaves, five, six, or seven, disposed in Form of the Rays of a Star all round the Stalk: These are of an oblong Figure, very narrow, and rough in the same manner as the Stalk. The Flowers stand on long and slender Pedicles, growing out at the *Alæ* of the Leaves; they are very small and white, and consist each of a single Petal divided into four Segments at the Edge. The Cup is in the same manner divided into five Segments, and when the Flower is fallen there appears in its Place a

dry, roundish and cartilaginous Fruit, which seems composed of two globular Bodies apply'd close to one another, and contains two umbilicated Seeds. The whole Plant is succulent and tender, and is of a raw herbaceous Taste. It grows very frequent in our Hedges, and is sometimes very troublesome in Corn Fields.

A Pound of fresh gather'd *Aparine*, distill'd in a Retort, yields first about four Ounces of a limpid and colourless Phlegm, of an herbaceous Smell and a faintly acid Taste: After this comes over another Liquor still limpid and colourless, but of a more strongly Acid, and toward the last Runnings of an austere and somewhat saline Taste, in Quantity about nine Ounces: After this there comes over about a quarter of an Ounce of a brownish Phlegm, impregnated with a volatile alkaline Salt; and finally about the same Quantity of a thick dark colour'd Oil. The Remainder in the Retort, calcin'd and lixiviated, yields about a Dram of a fix'd alkaline Salt.

The Plant is esteem'd Aperient and Sudorific. Its Juice taken in large Doses is a powerful Diuretic, and is greatly recommended by some in Dropsies. It is given sometimes in Decoction among other Ingredients in nephritic Cases, and its Juice is made one of the Spring Juices, taken by People for scorbutic Complaints: Externally it is said to be good against scrophulous Swellings.

MEDICINAL HERBS

Less frequently used.

CHAPTER I.

GRATIOLA,
Hedge Hyssop.

THE *Gratiola* is one of the *Diandria Monogynia* of *Linnaeus*, and one of the *Herbæ fructu sicco singulari flore monopetalo* of *Ray*. It is distinguished by the botanical Writers by the Names of *Gratiola Vulgaris*, *Gratia Dei*, *Gratiola Centauroides*, and *Limnesium*. *Morison* calls it *Digitalis minima Gratiola dista*. Its Roots are small and creeping, they run a great Way under the Surface of the Ground, and send out Fibres at their several Joints. The Stalks are erect and have frequent Knots or Joints, they rise to ten or twelve Inches high: The Leaves stand in Pairs at the Joints, they are of an oblong Figure, an Inch in Length, and more than half an Inch in Breadth; they are smooth and extremely bitter to the Taste; from the *Alæ* of these Leaves arise Flowers standing singly, they are tubular, consisting of a single Petal, and are perforated behind. They are in this hinder Part crook'd like a Horn, and in Colour yellow, striped with brown Streaks; they are two thirds of an Inch in Length, and about a quarter of an Inch in Diameter, and at the Front are divided into two Lips of a pale purplish Colour, standing far asunder; the upper Lip is of the
Shade

Shape of a Heart and is bent upwards, the lower one is divided into three Segments; the Cup is divided into five Segments, and the Flower is succeeded by a single Fruit of a roundish Figure, but pointed, of a pale purple Colour, divided into two Cells and fill'd with minute Seeds. The whole Plant is scentless, but of an extremely bitter Taste, with some slight Astringency with it. It is a Native of *England*, and of most other Parts of *Europe*. It grows by River Sides, and in other Places where there is Moisture.

A Pound of fresh gather'd *Gratiola*, distill'd in a Retort, yields first about three Ounces of a Liquor clear and colourless, without Smell, and of a faintly saline and acid Taste. After this come over about ten Ounces of a Liquor at first clear and colourless, but toward the last Runnings brownish; the first Part of this is more acid and somewhat austere, and the latter very strongly acid and as strongly austere: After this comes about half an Ounce of a brown Liquor, impregnated with an alkaline volatile Salt, but acid and austere withall; and finally about two Drams of a thick Oil like Treacle. The Remainder in the Retort, calcin'd and lixiviated, yields about a Dram of a fix'd alkaline Salt.

The *Gratiola* is a purging Medicine, and a very rough one; it often operates by Vomit as well as by Stool, and carries off a great Quantity of Water in dropical Cases. It also destroys Worms, and opens Obstructions of the Viscera. It is so violent a Medicine however as to be only fit for People of robust Constitutions. It is usually given in Decoction in Water or in *Ale*, half a Handful is sufficient as a Dose for a very strong Man, but it operates much more mildly if just boil'd in Milk and the Decoction drank. An Extract may conveniently be made from a Water Infusion of it, half a Dram of which is a good Dose. Glysters are sometimes given by the good Women in the Country of a Decoction of it; it purges very briskly this Way, but Care must be taken not to give it when the Bowels are in an inflam'd State. Externally it is said to be a Vulnerary, and a Cataplasm of the bruised Herb is sometimes apply'd to Wounds by People who can have it fresh gather'd, it is said with Success.

C H A P T E R II.

LINUM CATHARTICUM, *Purging Flax.*

THE *Linum Catharticum* is one of the *Pentandria Pentagynia* of *Linnaeus*, and of the *Herbæ pentapetalæ vasculiferae* of *Ray*. It is the *Linum pratense floribus exiguis* of *C. Baubine*, the *Alsine verna glabra flosculis albis vel potius Linum minimum* of *J. Baubine*, the *Chamælinum Clusii flore albo* of *Parkinson*, and the *Linum Sylvestre Catharticum* of others. It is a low but very pretty Plant, its Root is small, long, white and woody, and has a few Fibres; from this arise woody but slender Stalks, which are procumbent on the Ground a little Way, and then rise to the Height of six or eight Inches; they are round, usually of a reddish Colour toward the Bottom, and green toward the Top, and very much branch'd. The Leaves which grow in a Tuft from the Root are short, obtusely pointed, and somewhat roundish; those on the Stalks stand in Pairs, and are slender and oblong, they are half an Inch in Length, and of the Breadth of a Straw; they stand very thick upon the Stalk, and are smooth
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and destitute of Pedicles growing by the Base to the Stalk. The Flowers stand on the Tops, and have long and slender Pedicles; they are small, white, and consist each of five little Petals pointed at the End. They stand in a five leav'd Cup and have whitish Stamina in the Middle. The Seed Vessels are like those of the common Flax, but small, and the Seed is glossy, lubricous, and of an oblong Form like that of Flax. The whole Plant has a very bitter and nauseous Taste: It grows wild with us in dry Pastures, and on hilly Grounds in great Abundance.

A Pound of *Linum Catharticum* fresh gather'd and in Flower, distill'd by the Retort, yields first about five Ounces of a clear and colourless Liquor, without Smell, and of a faintly and acid Taste. After this come over about eight Ounces of another Liquor, still clear and pellucid, of a stronger acid Taste, and toward the last Running somewhat austere: After this come over about three Drams of a reddish Liquor, still austere and somewhat acid, but impregnated also with a volatile alkaline Salt: After this about an equal Quantity of a brown empyreumatic Liquor, impregnated strongly with a volatile alkaline Salt, and without any Austerity or Acidity; and finally about three Drams of a thick Oil. The Remainder in the Retort, calcin'd and lixiviated, yields more than two Scruples of a fix'd alkaline Salt.

The *Linum Catharticum* is a common Purge among the Country People, and is almost as rough a one as the *Gratiola*. The common way of taking it is in Infusion in Ale, to which it communicates a very bitter and nauseous Taste, and a very strongly cathartic Quality: A Dram of the Powder of the dry'd Herb, or of the fresh Leaves bruis'd and form'd into a Bolus will answer the Purpose. It is greatly recommended by some in Dropsies: It is proper to mix Anise, or some other of the Carminative Seeds with it to prevent its griping. It is given in most chronic Cases, and where People's Constitutions are robust enough to bear it, often with great Success.

CHAPTER III.

LAUREOLA,

Spurge Laurel.

THE *Laureola* is one of the *Oelandria Monogynia* of *Linnaeus*, and one of the *Bacciferae* of Mr. Ray. It is distinguished by botanical Writers by the Name of *Laureola semper virens flore viridi*, *Laureola mas* and *Thymelaea Lauri folio*. It is call'd *Laureola mas* in Distinction from the Mezereon, which is call'd *Laureola femina* by many.

The Root of the Spurge Laurel is thick, long and woody, not single but composed of a number of Ramifications. Its Stem is tough, firm and woody, about the Thickness of a Man's Thumb, and cover'd with a greyish or pale brown Bark. It grows to about three Feet high, and is branch'd toward the Top; and its Leaves which grow about the Tops of the Branches are oblong, and of a fine shining deep green. They are small at the Base, broadest toward the opposite End, and terminate in a Point; they are very thick and fleshy, of a very smooth and glossy Surface, not serrated at the Edges, and are green all the Winter. From among these Leaves there grow little Pedicles of an Inch

in Length, thick and cover'd with a peculiar Kind of foliaceous Flakes or Scales; on these there are placed small Flowers of a greenish yellow Colour, these consist each of a single Petal, and are tubular in the hinder Part, but before they are divided into four pointed Segments; these have no Cup, and are succeeded by small oblong Berries of the Shape of an Olive, green at first but black when ripe, containing a thin Juice, and in the Center a single hard Kernel like a Seed of Hemp, and full of a white Nucleus. Every Part of this Shrub, the Leaves, Bark and Root are of a hot, acrid and pungent Taste, scarce supportable on the Tongue. It is a Native of *England* as well as of most other Parts of *Europe*. It grows in our Woods, and makes a very beautiful Figure in Winter by its Greenness.

A Pound of the fresh gather'd Leaves of Spurge Laurell, distill'd in a Retort, yield first about two Ounces of a clear and colourless Liquor, smelling and tasting of the Plant, and of an obscurely acid Taste withall: After this comes over a Liquor at first colourless and clear and much more acid than the former, toward the last Runnings brownish and yet more acid, and very austere, the whole about nine Ounces; after this there comes over about a Quarter of an Ounce of a brown, empyreumatic, very acid, and somewhat saline Liquor; after this about half an Ounce of a brown Liquor copiously impregnated with a volatile alkaline Salt; and finally about half an Ounce of a thick black Oil. The Remainder in the Retort, calcined and lixiviated, yields about two Scruples of a fix'd alkaline Salt.

Spurge Laurel is a very rough Purge, it operates both upwards and downwards, and usually carries off a great Quantity, but it is apt to inflame and erode the Stomach and Intestines; the Leaves are somewhat milder than the Bark of the Stem; that of the Root is strongest of all: a few Grains of either dry'd and powder'd is a Dose: Many have given it in Dropsies, and sometimes with Success, but upon the whole, it is so rough and dangerous a Medicine, that while we have so many others capable of answering all the Purposes intended by it with less Danger, it is unpardonable to bring it into Use.

CHAPTER IV.

MEZEREON, *The Mezereon Shrub.*

THE *Mezereon* is also one of the *Ocandria Monogynia* of *Linnaeus*, and one of the *Bacciferae* of *Ray*. It is so nearly allied to the *Laureola* as to be generally called by the same Name, only with a Distinction of Female, and is indeed another Species of the same Genus. *Tournefort* calls it *Thymelaea Lauri folio deciduo*, *sive Laureola femina*, and *J. Bauhine* *Laureola folio deciduo sive Mezereon Germanicum*; others have called it *Chamaelea Chamædaphne* and *Daphnoides*, but these latter are less distinct Names: in the Shops its general Name is *Mezereum*.

It is a low Shrub growing to three or four Feet high, rarely more, and is generally much branched; its Branches are round, woody, and very tough, so that it is hardly possible to break them: They are cover'd with a double Bark,
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the outer one thin and of a grey Colour, the inner one green on its outer Part, and white on its inner Surface.

The Leaves grow several together out of certain little Tubercles of the Bark, they are smaller, thinner, and softer than those of the Spurge Laurel, and not so glossy; the Flowers are tubular, divided into four Segments at the Extremity, of a fine red Colour, and of a sweet Smell: these have no Cups and are succeeded by Berries of the Figure of an Olive, but small, and at first of a green Colour, but black when ripe; the Root is tough, woody and creeping. The Shrub is not a Native of *England*, but is very common in our Gardens. It grows wild on the *Alps* and *Pyrenean* Mountains in great Abundance.

The Leaves, Bark, and every Part of this Shrub are acrid and pungent, and inflame the Mouth and Throat for a long time; it has indeed all the Characters and Qualities of the *Laureola*, but in a rather more intense Degree.

A Pound of the Tops of *Mezereon*, with the Leaves fresh gather'd and distill'd in a Retort, yields first about four Ounces of a clear and colourless Liquor, of an acrid and subacid Taste; after this there comes over a Liquor colourless at first, but afterwards brownish, in Quantity about eight Ounces and a half; the first Runnings of this are very acid, and toward the End it becomes austere; after this there comes about half an Ounce of a Liquor of a mix'd, acid, austere, and saline Taste, and after all these, about three Drams of a brown and very empyreumatic Liquor, containing a large Portion of a volatile alkaline Salt; finally a few Grains of volatile Salt concrete in a solid Form, and there comes over about two Drams and a half of a thick Oil. The Remainder in the Retort, calcined in an open Fire and lixiviated, yields about two Scruples of a fix'd alkaline Salt.

The Bark of the Root of *Mezereon*, or the inner Bark of the Trunk are prescribed by some in Dropsies, and other Cases where strong Purges are to be had Recourse to; but it is so rough and violent a Medicine, that it is best to banish it entirely from all internal Use: it usually vomits as well as purges, and very frequently brings away Blood with the Stools. Externally it is sometimes used by way of a Seaton, a long and smooth Piece of the Root being introduced after Maceration in a *Lixivium* of Wood Ashes, to occasion a copious Discharge from the Ear, in order to take off Inflammations of the Eyes.

CHAPTER V.

CUSCUTA, Dodder.

CUSCUTA is one of the *Tetrandia Digyna* of *Linnaeus*, and one of the *Herbæ flore tetrapetalo anomalæ* of *Ray*. We keep what we call two Kinds of it in the Shops, a larger called simply, *Cuscuta* and *Dodder*, and a smaller called *Epithymum* or *Dodder* of Thyme, from its growing upon that Plant. The first is described by the botanical Writers under the Name of *Cuscuta major*, *Cossutha major*, and *Cassitha*. The latter under those of *Epithymum* and *Cuscuta minor*, but they are both the same Species.

Dodder is a very singular Plant in its Nature and Manner of growing, when
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it first shoots from the Seed it has little Roots which pierce into the Earth near the Roots of other Plants, but the Stalks or Capillaments it is formed of, soon after clinging about these Plants, the Roots grow unnecessary and wither away. From this time it propagates itself along the Stalks and Branches of the Plant, twining round them, and entangling itself about them in a very implicated manner.

It has no Leaves, but consists entirely of Capillaments or Stalks of the Thickness of a small Twine of a brownish Colour, with a Cast of red which run to great Lengths; these are of an acrid and subastringent Taste, and have at certain Distances a Number of Tubercles, which fix them fast down to the Bark of the Plant they grow on, and by Means of which they absorb and take in the nutritious Juices destined for its Nourishment: These Tubercles serve in the Place of Roots, so that those which are furnished by the Seed at the original Shooting of the Embryo Plant may very well be spared.

The Flowers stand in a Kind of little round Clusters or Heads on several Parts of the Stalks, they are small, of a whitish or pale reddish Colour, of the Bell-fashion'd Kind, and are deeply divided into four or five Segments at the Edge. This deep Division misled Ray into the placing it among his tetrapetalous Plants, tho' in reality the Flower is monopetalous, or consists solely of one Leaf divided in this manner at the Edges.

The Flower is succeeded by a roundish Fruit or Capsule with three or four Ridges on it that seem to give it a trigonal or tetragonal Form; this has only one Cavity, and when ripe it separates into two Parts, the upper one of which is much larger than the under. The Seeds contain'd in it are numerous, very small and of a brown Colour. These Seeds when the Capsule opens fall upon the Ground, and there, after some time, produce a Number of young Plants. Such of these as are lucky enough to rise near other Plants, whose Stalks they can fasten themselves to, succeed very well, they grow up apace, and as soon as they are well fasten'd to the Plant by the little Protuberances already mention'd, the Root dies as of no farther Use. Those Plants of Dodder which grow up in Places where they have not this Advantage die very soon. This is easily seen by sowing the ripe Seeds in a Pot of Earth in which there is no other Plant; they soon shoot up and promise very fairly, but they all die in a little time after, it being from the Vessels of other Plants taken in by Means of its Protuberances, and not by the common nutritive Juices of the Earth taken in by its Roots, that Nature has destined this Plant to be nourish'd.

It has grown a Custom to call that *Cuscuta* peculiarly by the Name *Cuscuta*, which grows upon Flax, tho' the Plant is in reality the same on whatever Herb it is fix'd. When growing on any other Plant beside Flax, it has been the Custom to name it from that Plant by prefixing the *Greek epi*, upon, to the Name of the Plant. Thus the Dodder that grows on Horehound is called *Epimarrubium*, that on Lavender, *Epilavendula*, and that on Thyme, *Epithymum*. We at present do not much use our own *Cuscuta*, which is frequent enough in some Parts of the Kingdom on many Plants; but the greatest Part of what is kept in the Shops is of the *Epithymum* Kind, or such as grows, or is said to grow on no other Herb but Thyme. We have this from the Island of *Crete*, and from *Venice*. The Cretic *Epithymum* is generally in longer and thicker Capillaments,

the *Venetian* is composed of smaller and shorter, and is of a more aromatic Smell and stronger Taste.

A Pound of *Cuscuta*, fresh gather'd and distill'd in a Retort, yields first about three Ounces and a half of a limpid colourless Phlegm almost without Smell or Taste, but with a faint Acidity when held some time in the Mouth; after this there come over between seven and eight Ounces of a more acid Liquor, the last Runnings of which, tho' still colourless, are austere; after these there rises about half an Ounce of a reddish Liquor of an empyreumatic Smell, the first Droppings of which are extremely acid, but the succeeding ones very strongly impregnated with a volatile alkaline Salt: Finally there come over about two Drams of a thick Oil. The Remainder in the Retort, calcined and lixiviated, yields about a Dram or somewhat less of a fix'd alkaline Salt.

The Ancients recommend *Epithymum* as a Purge. It is no more so indeed than the common *Cuscuta*, and the purgative Virtue is so weak in both, that at present neither is at all regarded in that Intention. We esteem the *Epithymum* however to be an Attenuant and Aperient, and pay more regard to the Authors who recommend it in Obstructions of the Viscera, and in Jaundices, Dropsies, and other chronic Diseases, but it is very little used in any Intention.

CHAPTER VI.

EBULUS, *Dwarf Elder.*

THE *Ebulus* is one of the *Pentandria Trigynia* of *Linnaeus*, and one of the *Bacciferae* of *Ray*. It is well known among us by the Names of Dwarf Elder and Danewort, and is described by all the botanical Writers, under those of *Ebulus*, *Sambucus humilis*, *Chamaeæte* and *Sambucus Herbacea*. It is indeed, tho' not of the Shrub Kind, but a mere herbaceous Plant, extremely like the common Elder in its whole Appearance. It grows to five or six Feet in Height, its Stalks are succulent and tender, and have frequent Joints; they are hollow like the young Shoots of Elder, and have the same Sort of Pith in them; but they are annual and die down to the Ground in Winter, tho' the Root remains many Years. The Leaves are large and of a deep green, they are composed of two or three Pairs of smaller Leaves placed on a middle Rib, with an odd Leaf at the End; these are longer and narrower than those of the Elder, and are serrated round the Edges and pointed at the End. The Flowers are small and white, they consist each of a single Petal divided into five Segments at the Edge, and are disposed in large Clusters in the Form of Umbells as in the Elder; they are of an agreeable Smell, something like that of Peach or Apricot Kernels, but of a very disagreeable Taste. The Flowers are succeeded by Berries green at first, and of a Sort of triangular Figure, but they grow round as they ripen, and when ripe are black: the Birds are so fond of these, that it is rare to meet with any of them that stand to a full State of Maturity. The Juice of these stains the Hands with a deep Purple; every Berry contains three Seeds, angular on one Side, and gibbous on the other. The Root is white, fleshy, and of about half an Inch in Diameter; it creeps every way under

der the Surface of the Ground, branching out in a very remarkable manner, and is of a bitter, acrid, and nauseous Taste. The Plant grows wild in many Parts of *England*, but it is cultivated for medicinal Use in the Gardens about *London*.

A Pound of *Ebulus*, fresh gather'd and destill'd by the Retort, yields first about four Ounces of a Phlegm clear and colourless at the first Runnings, but brownish toward the last, and of an unpleasant Smell, at first acid, and afterwards saline in Taste; after this there comes over a brownish Liquor, at first of a slightly alkaline Taste, and afterwards of a very strong one, in Quantity about seven Ounces: after this about a Dram and half of a browner and very empyreumatic Liquor, sated very strongly with a volatile alkaline Salt; and finally about two Drams and a half of a thick Oil. The Remainder in the Retort, calcined in an open Fire and lixiviated, yields about two Scruples of an alkaline fix'd Salt.

The Roots and Leaves of Dwarf Elder have the Character of very brisk Cathartics; if the former are prefer'd the cortical Part only is to be used; for the hard woody Matter within is so far from being purgative, that it is astringent; and is prescribed by *Hoffman* in the *Fluor Albus*. The Leaves purge more mildly and safely than the Bark of Roots, but both are occasionally given in Dropsies according to the Strength of the Patient; at best it is but a rough and disagreeable Medicine, often occasioning Vomitings, and sometimes Convulsions if taken by People of tender Constitutions. Upon the whole, it is a Medicine that no Body ought to venture upon without much better Advice than the People have who usually take it.

The Flowers are esteemed sudorific, and the Leaves boil'd till perfectly soft make a Cataplasm for the *Sciatica*.

CHAPTER VII.

TRIFOLIUM PALUDOSUM, *Buckbean.*

BUCKBEAN is one of the *Pentandria Monogynia* of *Linnaeus*, and one of the *Herbæ pentapetalæ vasculiferae* of *Ray*; tho' called a Trefoil from its Leaves, growing always three on the same Stalk; it is extremely different from the common Trefoils, which have all of them papilionaceous Flowers. It is described by *C. Bauhine* under the Name of *Trifolium Palustre*, and by *Gerard*, *Parkinson*, and others, under that of *Trifolium Paludosum*; some also call it *Trifolium Fibrinum* and *Isopyrum*.

It is a low but very beautiful Plant, the Root is as thick as a Man's Finger, and runs horizontally under the Surface spreading very fast; it is brownish on the outside and white within, jointed as it were in several Places, and furnish'd with abundance of Fibres: The Stalk is thick, fleshy, and tender, of a pale green, or else of a purplish Colour, often Purple near the Ground, and green toward the top; it grows to six or eight Inches, the Leaves stand on long Footstalks, and always three of them are placed on each; they are oblong, smooth at the Edges, broadest in the middle, growing narrower toward the Base, and ending in a Point: they are succulent, of a fine glossy green, and of an extremely bitter

bitter Taste. The Flowers stand in a beautiful Spike of an Inch or two in Length, at the top of the Stalks; they are white with a faint Cast of red moderately large, and ornamented with a Multitude of curled Filaments, which give them a very singular and very beautiful Appearance. The Seed Vessels which succeed to these are short, and thick; pointed at the End, and contain a Quantity of small bitter Seeds. The whole Plant has no Smell, but every Part of it has this strongly bitter Taste. It is a Native of our own Island, and grows in many Parts of it in marshy Ground in very great Abundance. Distill'd by the Retort it yields first a moderate Quantity of a colourless Phlegm, of an obscurely acid and saline Taste, then comes over a much larger Quantity of a still colourless Phlegm, of a more acid, and toward the last Runnings of an austere Taste; after these comes a small Quantity of a brownish Liquor, at first acid and austere, but afterwards of an alkaline, volatile and urinous Taste; after this comes a small Quantity of a thick Oil, and the Remainder in the Retort, being then calcined in an open Fire and lixiviated, yields a moderate Quantity of a fixed alkaline Salt.

It is greatly recommended by some as a Diuretic, and a Remedy for Dropsies in their first Stage; others say much of it in the Cure of intermittent Fevers. It is very evident that it is an Attenuant and Aperient qualified to dissolve viscous Humours in the Stomach and elsewhere; and it is greatly recommended by many in all the Disorders of the Breast arising from a tough viscous Matter in the Lungs. At present however it is left to the Country People to cure themselves with, being very rarely heard of in the Shops. The general Way of taking it is in a strong Infusion, though many prefer the Juice fresh expressed from the Leaves.

CHAPTER VIII.

GENISTA, Broom.

BROOM is one of the *Diadelphia Decandria* of *Linnaeus*, and one of the *Frutices siliquosæ Floribus difformibus sive papilionaceis* of *Ray*. There are several Species of it, but only one of them is used with us in Medicine. This is the common Broom, the *Genista vulgaris* of most authors, the *Genista angulosa* & *Scoparia* of *C. Bauhine*, and the *Genista angulosa trifolia* of *J. Bauhine*.

It is a small Shrub growing to four or five Feet in Height; its Stem and larger Branches are woody, firm, and tough, but never thick. From these are produced a Number of fine small and slender Twigs of a bright green Colour, very long and extremely flexible; these are of an angular Figure, and are furnished with small Leaves of a deep green Colour and pointed at the Ends, and somewhat hairy. These stand thick upon the Stalks; those which stand toward the lower Part of these Twigs are placed three together, the others stand single; the Flowers stand also on these Twigs or young Shoots; they are large and of a beautiful yellow; they are of the Shape of our Pea or Bean Flower, and are succeeded each by a flat and broad Pod, black when ripe, and containing a Number of flattish hard Seeds of a dusky Colour, and somewhat Kidney-like Shape. The Root is hard, woody, tough, and flexible.

flexible. It is of a yellow Colour, and it spreads every Way under the Ground, so as to propagate the Shrub very abundantly. It is common with us on Heaths and other uncultivated and barren Grounds; its Leaves and young Shoots are bitter and disagreeable to the Taste; its Seeds when roasted have somewhat of the Taste of Coffee.

A Pound of the green Twigs of Broom with the Leaves and Flowers, distilled in a Retort, yields first about three Ounces of a colourless and insipid Phlegm, except that it has a slightly acid Taste; after this there come over between nine and ten Ounces of a Liquor colourless at first, but toward the last Runnings reddish and foul. This is of an intensely acid Taste at the first Running, but toward the End it grows more austere and less acid. After this rises a very small Quantity of a brownish Liquor highly impregnated with a volatile urinous Salt, and about a Dram and half of Oil, with a few Grains of the volatile Salt in a dry or concreted Form. The Remainder, calcined and lixiviated, yields a Dram and half of fixed alkaline Salt: A very large Proportion.

Broom is an Attenuant, Abstergent, and Aperient: It opens Obstructions of the *Viscera*, and is particularly good in Disorders of the Liver and Spleen. The Juice of the green Shoots of Broom, or a strong Infusion of them in Wine, is an excellent Diuretic, and cleanses the Ureters and Kidneys: If taken in large Doses; it purges by Stool, and is thus doubly proper in dropical Cases. The Seed of Broom is also a Purge, and that of no weak Kind, a Dram and half of it is a Dose. The young Buds that are to open into Flowers are frequently pickled in the Manner of Capers, and make a very agreeable Addition to our Foods. If eaten crude and without pickling, in any considerable Quantity, they are apt to provoke Vomiting, but the Acid of the Vinegar wholly prevents this in their pickled State.

The most usual Preparation of Broom for internal Use is a *Lixivium* made with white Wine from the Ashes of the dried Stalks burnt. This is a powerful Diuretic, and is greatly praised in Dropsies and many other chronic Cases. It is however a sharp Medicine, and sometimes erodes the Intestines, and must therefore be given with Caution, and made of the Ashes not too much calcined, that some Part of the Oil may remain with the Salt.

CHAPTER IX.

GALEGA,

Goats Rue.

GOATS RUE is one of the *Diadelphia Decandria* of *Linnaeus*, and one of the *Herbæ Flore Papilionaceo siliquosæ* of *Ray*. It is described by *C. Baubine* under the Name of *Galega vulgaris Floribus cæruleis*, by *Cesalpinus* under that of *Caprago*, and by *Taberemontanus* under that of *Fænum Græcum Sylvestre*, and *Ruta Capraria*. The Generality of Writers however have called it simply *Galiga*.

It grows to two or three Feet high; its Stalks are moderately thick, striated and hollow; they are divided into a Number of Branches, and are furnished with long pinnated Leaves, resembling those of the Vetch Kind. The Pinnules.

Pinnules are oblong and pointed at the End, of a pale green Colour, and of a leguminous Taste. The Flowers stand on particular Shoots propagated from the *Axe* of the Leaves; there are very large Clusters of them together, disposed in Form of a Sort of Spike. They are small and pendulous, of a white or very pale blueish Colour, and of the Form of those of our wild Vetches. These are succeeded by long and cylindrical Pods which stand erect, and contain each a Number of Kidney-shaped Seeds. The Roots are slender, hard, and woody; they creep every Way under the Surface of the Ground, and the Plant is propagated far and wide by them. It is a Native of *Italy*, and of some Parts of *Spain*; with us it is cultivated in Gardens for the Use of the Shops.

A Pound of *Galega* fresh gathered, distilled in a Retort, yields first about five Ounces of a colourless Phlegm, of an obscurely acid Taste, and of an herbaceous Smell: After this come over between eight and nine Ounces of a Phlegm colourless at first, but afterwards brownish; the first Runnings of this are very acid, the latter austere and of an empyreumatic Taste; the next Produce is a small Portion of a brown and highly empyreumatic Liquor, sated with a volatile urinous Alkali; and after this come over about two Drams of Oil, and a few Grains of a volatile Salt in a concreted Form. The Remainder in the Retort, calcined and lixiviated, yields a small Portion, about half a Dram or little more of a fixed alkaline Salt.

Galega has the Reputation of being a very great Alexipharmic and Sudorific, good against the Plague, malignant Fevers, and the Bites of venomous Animals. We have the largest Accounts of its Virtues from the *Italians*, who have it native among them, and who eat it raw and boiled, and make a Kind of Tea of it, as well as use it in their Decoctions and Ptisans given to People in Fevers of all Kinds. With us it is not at present in any Esteem; it is only kept in the Shops as an Ingredient in some Compositions.

CHAPTER X.

HEPATICA, *Liverwort.*

NAMES given to Plants from their supposed Virtues, or from those Parts of the Body, the Disorders of which they are supposed to have the Power of curing, are so very vague, and applicable to so many different ones, that it were to be wished they were wholly disused. The Name before us is given to two Plants of very different Kinds; the *Trifoliate Hepatica*, called *Hepatica nobilis*, and a green foliaceous Plant of the Lichen Class, and sometimes beside these, to the common *Asperula* or Woodruffe, a Plant wholly different in its Form and generical Characters from both. The first and the last of these have been both greatly recommended by medical Writers, but they are not of the Number of Plants at this Time used in the Shops.

The other Kind or lichenous *Hepatica* is the only Plant to be understood at this Time, as meant by the Term *Hepatica* when used in Prescription or in Compositions. This Plant is of the Number of the *Cryptogamia* of *Linnaeus*, it consists of a Number of thin green Leaves spreading themselves every Way on the Ground, and taking Root in numerous Places, by a Quantity of small
and

and fine Fibres, propagated from the middle Part of the Leaves. The Leaves themselves are an Inch or two, sometimes more in Length, and about half an Inch in Breadth; they are of a fine green Colour, not ferrated at the Edges, and end in obtuse or roundish Extremities, of an herbaceous and astringent Taste, and of a somewhat aromatic Smell. From the Part of the Leaves, near these Extremities, there arise Stalks of three Inches or more in Height, rounded, smooth, succulent, and of a whitish green Colour; on the Summit of each of these grows a little rounded Head divided into five Segments in its under Part; this Head is at first green, afterwards yellow, and in fine brown; and the divided Parts being opened discover something like Fruit. The whole Plant is used in Medicine, Leaves, Roots, and Stalks. It grows in many Places with us on Stones where there is Water near, sometimes on the Ground about the Origin of Springs. The Insides of our Wells are often also covered with it.

A Pound of the green Plant, distilled in the Retort, yields first about five Ounces of a limpid and colourless Phlegm, of no remarkable Smell, but of an herbaceous and saline Taste; after this come over about four Ounces of a still limpid and colourless Phlegm, at first more strongly saline in its Taste than the former, and afterwards more acid; after this come over about two Drams of a brownish empyreumatic Liquor, partly acid, and partly alkaline and urinous in the Taste; and after this about an equal Quantity of a yet more empyreumatic Liquor in which a volatile Alkali is more strongly perceived than in the former, but with it a very strong, saline, and acid Taste; finally there comes over about a Dram and half of a thick Oil like Treacle. The Remainder in the Retort, calcined in an open Fire and lixiviated, yields a very small Portion of fixed alkaline Salt, not more than ten or twelve Grains.

It has been long esteemed a great Medicine against Obstructions in the Liver, as its Name expresses, and has been prescribed also in the same Disorders of the Spleen and other *Viscera*: It is said to be aperient, attenuant, and solvent, and to have an after Astringency; which when it has cleared the Parts of the obstructing Matter, restores them to their former Tone, and prevents Relapses. There are not wanting Authors who have attributed to it a Power of curing singly almost all chronic Diseases; but with all these Wonders related in its Praise, it is very little regarded in the present Practice, and would not be known in the Shops, were it not an Ingredient in some of the Compositions kept there.

C H A P T E R XI.

LICHEN CINEREUS TERRESTRIS,
Grey Ground Liverwort.

This is one of the *Cryptogamia* of *Linnaeus*, and one of the *Herbæ imperfectæ* of *Ray*. It is described by *Linnaeus* under the Name of *Lichen Foliis planis subrotundis lobatis obtusis, Calyce plano lacinula propria adnato*; but his Description is taken from a young Plant of it. *Tournefort* calls it *Lichen Pulmonarius Saxatilis, digitatus major*, and *Dillenius* *Lichenoides digitatum Cinereum Lactucæ Foliis sinuosis*. While young its Leaves are sometimes entire, sometimes notched a little at the Edges; as they grow they are more sinuated and

and divided ; the whole Plant consists of these, there being no Stalk or other erect Part. These Leaves stand sometimes single, sometimes several together, and are, when full grown, two or three Inches long, and an Inch broad. They are narrower at the Bottom, and broader as they grow up, and are longitudinally divided into several large Segments in many of the Plants ; at the Extremities of these Leaves in Autumn there appear little *Peltæ* of a reddish Colour, and of an oblong and rounded Figure. They are convex on the Outside, and concave within, and are harder and more solid than the rest of the Leaf. Not only the large and full grown Plants produce these, but they are even found upon the young and small ones ; the Leaves themselves lie procumbent, or at the utmost are but little raised from the Ground. When dry, they are of a pale ash Colour or dusky grey, with some faint Admixture of a bluish ; underneath they are whitish, and are covered with a fine soft Down. There are a great Number of Ribs or Nerves run along this under Side ; they are high raised, and are more downy than the rest of the Leaf ; and from these there descend a Number of Fibres, by which the Plant receives its Nourishment ; on the upper Side of the Leaves there are small Furrows answering to the larger of the Ribs underneath. In wet Seasons the whole Plant is of a dusky greenish or blackish Hue, but in dry Seasons the whole has much the same Appearance as when dried for Use.

It grows very plentifully with us in Woods, on Heaths, and among Bushes ; we frequently meet with it about the Roots of old Trees among the other Mosses over which it creeps.

The Taste of this Plant is mucous and disagreeable, but it has no remarkable Smell. A Pound of it fresh gathered, and distilled in a Retort, yields first about five Ounces of a limpid and colourless Liquor of a somewhat saline Taste, and somewhat but very faintly acid ; after this comes over a Liquor still clear, at first more saline, and more plainly acid than the former, afterwards much more acid and not saline at all, in Quantity about three Ounces and a half ; after this near two Ounces of a Liquor partly alkaline and partly acid come over, and after that an empyreumatic Liquor partly acid, partly alkaline, and partly saline, in Quantity about a Quarter of an Ounce ; finally there rises about the same Quantity of a thick Oil. The Remainder in the Retort, calcined and lixiviated, yields about ten grains of a fixed Salt, but that not of the alkaline, but merely of the *Sal Salsus* Kind.

This Plant is famous for its Virtues against the Bite of a mad Dog. The World is indebted to Dr. Mead for bringing it into the Credit and general Use it deserves. It is the Basis of the *Pulvis Antilyssus* of our Dispensatories, which consists only of this Plant and common Pepper. Half the Quantity of the Pepper, that there is of the Herb in bleeding, is to be previously used, and bathing in the Sea Water or cold Bath must be continued for some Time after it.

C H A P T E R XII.

ABROTANUM MAS ET FÆMINA,
Southernwood and Lavender Cotton.

THERE are two very different Plants described by botanical Writers under the same general Name of *Abrotanum*, and distinguished by the Addition

Addition of *mas* and *fœmina*. The male *Abrotanum* is the Plant we call Southernwood, and the female is what we call Lavender Cotton.

SOUTHERNWOOD OR MALE ABROTANUM is one of the *Syngenesia polygamia superflua* of *Linnaeus*, and one of the *Herbæ Corymbiferae Floribus non radiatis* of *Ray*. It is described by all the botanical Writers under the Name of *Abrotanum vulgare*, *Abrotanum mas*, and *Abrotanum angustifolium majus*. It grows to four or five Feet high, and is a shrubby and strong Plant. Its Stalks are hard and woody, but not tough; they are of a reddish Colour, and lightly striated on the Surface, and have a hollow filled with a whitish medullary Substance within. The Leaves are very numerous, they are of a whitish green Colour, very finely divided into Segments, and of a strong, and to some People very disagreeable Smell; though there are others who are fond of it.

Their Taste is acrid and bitter; the Flowers stand thick together, about the Tops of the Branches, and are of a yellowish Colour, and much like those of the common Wormwood, but smaller; they are composed of a Number of small and hollow Floscules, which are divided into five Segments at the End. These are all contained in one common Cup, and each of them stands on an Embryo Seed which afterwards ripens and is oblong, and like the Seed of Wormwood but smaller, and has no downy Matter annexed to it. In the whole it greatly approaches to the Nature of the Wormwood Kind in all Things but in its external Appearance. It grows in great Abundance on the *Pyrenean* Mountains, and on most of the Mountains of *France* and *Italy*. With us it is not found wild, but is cultivated in the Gardens about *London* for its Smell, and to supply the Shops.

A Pound of the fresh Tops of Southernwood, distilled by the Retort, yields first about two Ounces and a half of a limpid Phlegm, of the Smell and Taste of the Plant; after this about ten Ounces of a stronger scented Liquor, of an acid, and with it of somewhat of the volatile alkaline Taste; after this about half an Ounce of a brownish Liquor of an empyreumatic Smell, and of a strongly volatile alkaline Taste, but with somewhat also of the Acid yet in it; after this comes over about half an Ounce of an Oil partly fluid, and partly thick as Butter. The Remainder in the Retort, calcined in an open Fire and lixiviated, yields two Drams of a fixed alkaline Salt.

The strong Smell and Taste of Southernwood, as well as the active Principles it is resolved into by Analysis, plainly shew that it is a powerful Medicine; and it has been very justly lamented by *Etmuller*, that it is not brought more into Use. It is evidently of the Tribe of Attenuants, and would be serviceable in all Obstructions of the *Viscera*. It destroys Worms by its bitter essential Oil, and at the same Time acting as an Attenuant on the foul viscous Matter in the Bowels, without which Worms cannot live or breed there, it prevents a Return of the Complaint.

It is recommended by some in Suppressions of Urine, a Dram of it in Powder for a Dose. But *S. Pauli*, who recommends it most strenuously on this Occasion, orders some Nitre to be added to it, and perhaps the Effects that he found from that compound Powder, were as much owing to the Nitre, as to the Plant. A Decoction of it is in Repute with some as a Lotion for the recovering Hair upon the Head when fallen off; and others recommend its Juice as a great Cleanser and Healer of old Ulcers. We sometimes meet with a distilled

stilled Water of it in the Shops ; but few make it, and fewer use it when made. It possesses but a small Share of the Virtues of the Plant ; an Infusion in Water, or a Conserve made of the young Tops in Spring, seem much better calculated to answer the Purposes intended by it.

LAVENDER COTTON, or the FEMALE ABROTANUM, is a Plant of the same Class with the former, but is extremely different from it in its Manner of Growth and general external Figure. It is described by the botanical Writers under the Name of *Santolina*, *Chamæcyparissus*, and *Abrotanum fœmina*. *Tournefort* calls it *Santolina foliis teretibus*, and *C. Bauhine*, *Abrotanum fœmina foliis teretibus*;

It grows in Form of a thick and low Bush ; its main Stalks are woody and hard ; they grow to two or three Feet high, and are divided into a Number of slender Branches which are whitish or hoary. The Leaves are about an Inch long, very thick and narrow ; they are minutely serrated round the Edges, or more properly speaking, they are beset in all Parts with Rows of little Tubercles, four in a Series. They are more white and hoary than the Stalks, and have a very strong and fragrant Smell, and are of an acrid and bitter Taste. At the Extremity of every Branch there stands a single Flower, moderately large and of the flosculous Kind, or composed of a Number of little tubular Floscules, cut into five Segments at the Edges, and separated by several imbricated Leaves. They are of a bright yellow Colour, and when in their Perfection, and a great Number open on the Plant at once, they make a very beautiful Appearance. The whole Cluster of Floscules that compose one Flower, are contained in one common Cup of the squammous Kind, and each of them is succeeded by a small oblong and striated Seed of a brown Colour. Its Root is hard, woody, and is often divided into a great Number of Branches. It is common in many Parts of *Italy* and in *France* wild by the Road Sides, in mountainous Places ; with us it is cultivated in Gardens for its Beauty more than for its medicinal Use, tho' it is rather of the Number of those Plants which escape our Notice, than of those that do not merit it.

A Pound of the fresh Tops of Lavender Cotton, distilled in a Retort, yield first about two Ounces or a little more of a limpid and colourless Phlegm, smelling and tasting of the Plant, but that not very strongly ; after this comes over a limpid Liquor yet smelling of the Plant, but in Taste somewhat obscurely acid : This is in Quantity about seven, or between seven and eight Ounces ; after this come over about two Ounces of a reddish Liquor, partly acid and partly alkaline, and after this about eight Grains of a volatile alkaline Salt in a solid Form ; and finally near an Ounce of a thick Oil like Butter. The Remainder in the Retort, calcined in an open Fire and lixiviated, yield about a Dram and half of a fixed alkaline Salt.

The Virtues ascribed to the *Santolina* or female *Abrotanum*, are in general the same with those of the male ; it is however particularly recommended in uterine Complaints. The Seed of this Plant is accounted little inferior to the *Semen Santonicum* for destroying Worms, and is not unfrequently sold by the Druggists as a *Succedaneum* for it.

Matthiolus recommends the Powder of the dried Leaves, half a Dram for a Dose, and to be continued a considerable Time, as a Remedy for the *Fluor Albus*. And *Garidelli* tells us of the same Dose having been given with great Success in Pleurifies and Peripneumonies.

CHAPTER XIII.

ORIGANUM,
Wild Marjoram.

ORIGANUM is one of the *Didynamia Gymnospermia* of *Linnaeus*, and one of the *Herbæ verticillatæ* of *Mr. Ray*. It is described by the botanical Writers under the Names of *Origanum vulgare*, *Origanum Anghium*, *Vulgare Spontanæum*, and *Majorana Sylvestris*. This is the Plant we always use in the Shops when the Leaves or the whole Herb are order'd; when the Flowers only were formerly prescribed, the Prescriber usually meant those of the *Origanum Creticum* or Candy wild Marjoram; a Species of *Origanum* well described by the botanical Writers, but is so perfectly forgotten in the Shops at this Time, that it is unnecessary to say any more of it here. *

Our *Origanum* is a very beautiful Plant, it grows to a Foot or a little more in Height. Its Stalks are very firm and strong; they are square and are of a brownish green, and often of a dusky reddish brown Colour: Usually indeed they are of this Colour toward the Bottom, if they are greenish higher up. The Leaves are of an oblong Figure, broadest toward the Base, and terminate in a very obtuse Point; they are of a dusky green Colour and somewhat hairy; from the *Alæ* of these grow up young Branches, which toward the Top of the Plant grow to two or three Inches long, and are ornamented at their Tops in the same manner as the Summits of the main Stalks, with a very beautiful Kind of squammous Heads of an oblong Figure and purplish Colour; from the Interstices of these arise the Flowers which are small, of a pale reddish Colour and labiated. The Seeds which succeed these are small and of a dusky Colour, four of them succeeding every Flower. The Root is small, fibrous and creeping, the whole Plant has a very fragrant Smell, and a very sharp, acrid and aromatic Taste.

Origanum fresh gather'd, and distill'd in a Retort, yields from a Pound of the Herb, first about three Ounces of a limpid Water smelling strongly of the Plant, and with it a few Drops of the essential Oil: After this comes over a Liquor still colourless, still smelling of the Plant, and tasting acid and somewhat saline; a few Drops of the essential Oil swims also on the Surface of this Liquor and give it somewhat the Taste of the Plant; this is in Quantity about ten Ounces. After this comes over about half an Ounce of a Liquor brownish, acid and austere, but with something of a volatile alkali also with it; and after this near an Ounce of a brownish Liquor, of an empyreumatic Smell and very strongly impregnated with a volatile urinous Salt: Finally there comes over about a quarter of an Ounce of a thick Oil. The Remainder in the Retort, calcined and lixiviated, yields a Dram or very nearly so much of a fix'd alkaline Salt.

Origanum is a very pleasant Aromatic, one of the best of our own Growth. Its essential Oil, drawn in the common Way by Distillation in a Retort, is very fragrant, but most extremely acrid and pungent. An Infusion of the Plant drank in the manner of Tea, is of great Service in Disorders of the Stomach; it absterges the viscid Matter apt to lodge there, and by this Means promotes

an Appetite and assists Digestion: It dispels Flatus's also, and is by many recommended in the Jaundice, and in all chronic Cases in which there are Obstructions of the Viscera.

The essential Oil is a Remedy for the Tooth-ach. Drop'd on Cotton and put into the hollow Tooth, it is so extremely acrid that it draws a great deal of Water into the Mouth, but it is seldom met with genuine; what is generally sold under its Name being the Oil of the common Garden Thyme, which is nearly as acrid as the genuine Oil of the *Origanum*, and is afforded in much greater Quantity by the Plant.

C H A P T E R XIV.

MANDRAGORA,

Mandrake.

MANDRAKE is one of the *Pentandria Monogynia* of *Linnaeus*, and of the *Herbæ bacciferae* of Mr. Ray. It is described by all the botanical Writers under the Name of *Mandragora*, with the Distinction into Male and Female. The Male *Mandragora* is the *Mandragora fructu rotundo* of C. Baubine, and the *Mandragoras mas* and *Masculus* of others. The Female is the *Mandragoras flore cæruleo purpurascente* of C. Baubine, and the *Mandragora fœmina* of other Authors.

The Male Mandrake has a very large, long and thick Root, it is largest at the Top or Head, and from thence gradually grows smaller as it descends toward the other End: Sometimes it is single and undivided to the Bottom, but more frequently it is divided into two, sometimes into three or more Parts. When only parted into two, it is pretended that it resembles the Body and Thighs of a Man, but this is mere Whim, it no more resembling the human Form in reality, than any other of the long Roots does when thus divided. It is of a pale greyish brown Colour on the Outside, and white within: From this Root there arise a number of very long Leaves, broadest in the Middle, narrower towards the Base, and obtusely pointed at the End; they are often a Foot or more in Length, and five Inches or thereabout in Breadth: They have no Pedicles, but are fix'd by their Base to the Root. They are of a dusky and disagreeable green Colour, and of a very foetid Smell. Among these Leaves there arise also immediately from the Root a number of small and slender Pedicles three or four Inches high, often not so much; each of these supports a single Flower, which is large and of a whitish or purplish Colour, of a very foetid Smell, and stands in a green hairy Cup divided into five Segments: Each Flower is succeeded by a single Fruit, which is of the Shape and Size of a small Apple, soft, fleshy, and of an extremely bad Smell. This is green at first, but it grows yellow as it ripens, and contains in its Pulp a number of flattish, white and somewhat Kidney shap'd Seeds.

The Female *Mandragora* perfectly resembles the other in its manner of Growth, but the Leaves are longer and narrower, and of a darker or blackish green Colour; the Flowers of a darker or deep purple Colour, and the Fruit smaller and not round, but of a Pear-like Shape; the Seeds it contains are also smaller and black; the Root is of the same Size and Shape with that of the other, but is

is darker colour'd on the Outside, though as white within. They are both frequently wild in the Woods of *Spain* and *Italy*, and sometimes on the shady Banks of Rivers: With us it is not found wild, but is frequent in the Gardens of the Curious, and is regularly cultivated in some of those where medicinal Plants are raised for the Use of the Shops, though the Demand for it at this Time is but very small.

A Pound of the fresh Leaves of Mandrake, distill'd in a Retort, yields first between five and six Ounces of a limpid Phlegm, of a strong and disagreeable Smell and of the Taste of the Plant, and with these of a plain, saline and acid Flavour; after this come over about eight Ounces of a Liquor limpid and colourless at first, but afterwards brownish and of a more strongly acid Taste than the former, and in the last Runnings very austere. Then a very small Quantity, not more than half a Dram, of a brown and very empyreumatic Liquor, of the same mix'd, acid, and austere Taste, and with it, of a strongly alkaline and urinous one, discovering plainly a very large Share of a volatile alkaline Salt: After this there rises near half a Dram of a volatile Salt in a concreted Form, which is a very large Portion for a Plant of this Kind; and finally about a Dram and half of a black thick Oil. The Remainder in the Retort, calcin'd in an open Fire and lixiviated, yields about half a Dram of a fix'd alkaline Salt. The Root affords the same Principles, but not in the same Proportion; the volatile alkaline Liquor is considerably more, and the concreted volatile Salt less.

The whole Plant has a disagreeable and forbidding Smell, approaching to what one would naturally call the poisonous. Authors have spoken very largely, and very idly of its Virtues; the most common Quality attributed to it is that of rendering barren Women fruitful, but we have no tolerable Foundation for this: What we certainly know of it is, that it is a soporific. *Herman* assures us that the fresh Root is a Purge, and that of the violent Kind, often operating both by Vomit and Stool, and not unfrequently bringing on Convulsions and other bad Symptoms: He therefore advises the giving it only in very small Doses, as from ten Grains to twenty in Substance, and from half a Dram to a Dram in Infusion. He adds, that it has also a soporific Virtue like that of Opium. It is sometimes given as a Vomit; the Bark of the Root dry'd is to be used for this Purpose, but it is a rough and unsafe one: In small Doses it has often been known to do great Service in hysteric Complaints. *Herman* even calls it a Specific in them, but he cautions People to use it very sparingly, acknowledging that otherwise it will often bring on Convulsions, and many other very mischievous Symptoms.

The Ancients used it when they wanted a Narcotic of the most powerful Kind. They gave a Tincture of it, made in Wine, to Persons who were to have a Limb taken off, but a better Knowledge of the human Fabric has at present very justly exploded the Use of every Medicine in this Intention, on such Occasions. We only use the fresh Leaves of Mandrake in Cataplasms and Fomentations as Anodyne and Emollient, and Ingredients in some of the Ointments and other external Compositions of the Shops. The Ancients tell us, that the Fruit not only eaten but even but smelt to, prov'd soporific. With us it has been long a disputed Point, whether the Fruit might or might not be eaten with Safety: Some who pleaded hard for the Innocence of the pulpy Part of the Fruit, gave up the Seeds as evidently narcotic, and even
poisonous;

poisonous; but *Faber* set the Matter right, by eating a large and ripe Fruit of it, Seeds and all, before a numerous Set of botanical Students.

CHAPTER XV.

ANAGALLIS,
Pimpernel.

ANAGALLIS is one of the *Pentandria Monogynia* of *Linnaeus*, and one of the *Herbæ pentapetalæ Vasculiferae* of *Ray*. It is described in all the botanical Writers under the Name of *Anagallis mas*, *Anagallis flore Phæniceo*, and *Anagallis Phænicea*. It is a small and procumbent Plant, its Stalks are square, smooth and hollow, they grow to five or six Inches in Length, and are often considerably branch'd. The Leaves stand usually two at every Joint of the Stalk, but sometimes three; they are small, oblong and broadest in the Middle; they have no Pedicles, but are affix'd immediately to the Stalk by their Base, and are smooth and of a deep green on the upper Side, and usually spotted with blackish red Spots underneath. The Flowers stand on long and slender Pedicles, they grow singly from the *Alæ* of the Leaves and are of a fine Scarlet Colour, small and composed of a single Petal each, but that so deeply divided into five Segments, that it has all the Appearance of a pentapetalous Flower; in the midst of these stand a number of red Stamina crown'd with yellow Apices. The Cup is green, and is divided as deep as the Flower into five Segments: The Seed Vessel is of a roundish Figure, and is large in Proportion to the Size of the Plant; when ripe it divides transversely into two Parts, and is full of small angular and rough Seeds, of a brownish Colour, and affix'd to a Placenta. The Root is small and long, penetrating strait down into the Earth. The whole Plant has an austere herbaceous Taste, it is common with us in Cornfields, and in Garden-ground, and when in Flower makes a very pretty Appearance.

A Pound of fresh gather'd *Anagallis* in Flower, distill'd by a Retort, yields first about five Ounces of a clear and colourless Liquor, of an herbaceous Smell and a very faint Acidity in the Taste: After this come over between seven and eight Ounces of a Liquor still colourless but very acid, and toward the last Runnings somewhat austere: After this comes a brown Liquor, of an empyreumatic Smell and of a mix'd acid and volatile alkaline Taste, in Quantity about six Drams: After this a few Grains of a volatile alkaline Salt appear in a dry concreted Form; and finally about two Drams of a blackish and thick Oil. The Remainder in the Retort, calcin'd and lixiviated, yields about half a Dram of a fix'd alkaline Salt.

This Plant has the Credit of being a very powerful Sudorific, as also a Cephalic and Vulnerary. It is greatly recommended by many in maniacal Cases, and in violent Deliriums attending Fevers: As also in all hysteric and hypochondriac Complaints, and in Epilepsies and Convulsions of all Kinds. With all these Recommendations however, it is scarce known in the Shops, it is an Ingredient however in many of the family Medicines so frequent in *England*, and it seems of the number of those Plants that very much deserve to be try'd, in order to determine whether Fancy, or real Observation and Experience have led Men to speak well of them.

CHAP.

CHAPTER XVI.

GERANIUM,
Cranes Bill.

CRANES BILL is one of the *Monadelphia Pentandria* of *Linnaeus*, and one of the *Herbæ flore pentapetalo Vasculiferae* of *Ray*. There are many Species of it, but the officinal Kind is that call'd *Herb Robert*, and described by the botanical Writers under the Names of *Geranium Robertianum* and *Robertiana* or *Rupertiana*; some call it also *Herbæ Ruperti* and *Gratia Dei*. There are two or three other Species enumerated by the medical Writers as officinal, but this possesses the Virtues of the whole Genus in so much more eminent a Degree than any other Species, that it is idle to introduce any of the others into Use.

It is a usually procumbent Plant, its Stalks grow to eight or ten Inches long, and are so weak, that they are very seldom able wholly to support themselves; they are round and jointed, or knotted at the Distance of two Inches or thereabout, and are much branched and somewhat hairy. The Leaves are large and finely divided and subdivided into Segments; some of them arise from the Root, and others stand in Pairs at the Joints of the Stalk; they have all long and hairy Pedicles usually of a red Colour, as also is the main Stalk, especially near the Ground, and indeed in many Places the whole Plant, Leaves, Stalks, and every Part. The Flowers are small and of a reddish Colour, composed each of five Petals, and stand in hairy and usually red Cups divided into five Segments; these are succeeded by a long and pointed Fruit, in Form resembling the long Beak of a Crane, whence the Name, and composed of an Axis, and five little Capsules with long and slender Tails to them, which when ripe fly off and curl up in a spiral manner, and each contains a single brown Seed. The Root is small and yellowish; the Plant grows very frequently with us under Hedges and in Woods.

A Pound of fresh gather'd Herb Robert, distill'd in a Retort, yields first about two Ounces of a clear and colourless Liquor, at first of an herbaceous Taste, but toward the last Runnings somewhat acid; after this comes over a Liquor limpid and colourless at first, but afterwards brownish; the first Runnings of this are acid, and the last austere: the whole has a very singular Smell, and is in Quantity about eight Ounces. After this comes over a small Quantity of a brown Liquor, strongly impregnated with a volatile alkaline Salt, yet still very austere; and finally a little black thick Oil. The Remainder in the Retort yields about a Dram of a fix'd alkaline Salt.

The *Geranium Robertianum* stands recommended by Authors, as one of the greatest Vulneraries and Astringents of the vegetable World, and is greatly praised for its Power of stopping *Profluvia* of the Menfes and Hæmorrhages of all Kinds. Experience confirms the Truth of this continually among the Poor in the Country, and it were to be wished that the Plant could be brought into more Esteem in the Shops, where at present it is disregarded.

C H A P T E R

CHAPTER XVII.

ADIANTUM,
Maidenhair.

MAIDENHAIR is one of the Class of the *Cryptogamia* of *Linnaeus*, and of that of the *Herbæ Epiphyllispermæ* of *Mr. Ray*. It is a large Genus of Plants, comprehending a great Number of Species, most of which have at one time or other been recommended as Medicines of great Power; at present however there are only three of the Species known in the Shops, and these indeed but little used; these are, 1. The True Maidenhair. 2. The larger white Maidenhair, and 3. The little white Maidenhair or Wall Rue.

The first of these is the *Adiantum verum* of the Shops, the *Adiantum sive capillus veneris verus* of *J. Baubine*, and the *Adiantum foliis Coriandri* of *C. Baubine*, *Tournefort* and others.

The second is the *Adiantum album filicis folio* of the Shops, the *Dryopteris Candida* of *Dodonæus*, and the *Filicula fontana major sive Adiantum album folio filicis* of *C. Baubine* and *Tournefort*.

The third is the *Ruta Muraria* of the Shops, the *Adiantum album* of *Ray*, the *Filicula petrea rutæ facie* of *Morison*, and the *Empetrum* of *Fuchsius*.

ADIANTUM VERUM,
The True Maidenhair.

This is a low, but a very beautiful Plant of the Kind. The Stalk is about three or four Inches high, and is round, firm, and solid, tho' very slender and of a shining black Colour, and extremely even and glossy Surface; it is naked and single for two thirds of its Height, but then it divides into several Ramifications on each of which are placed a Number of Pinnules or little Leaves; these are near half an Inch in Breadth, and more than a third of an Inch in Length; they are of a cristated Form, and have Veins disposed like Rays on them; they are smooth and of a shining green, and are notch'd so deeply about the Edges, and that in so singular a manner, that they much resemble the lower Leaves of the Coriander Plant: they are smooth and soft to the Touch, of a somewhat fragrant Smell, and of a not disagreeable Taste, with something of Astringency in it, and a little Bitterness. The Seeds are produced on the outermost part of these little Pinnules, in the manner of the ferns and capillary Plants in general, but with somewhat singular in the Disposition of them.

In the latter End of Autumn the Indentings of the Leaves swell and enlarge till they join and adhere to one another; the Seed Vessels are contain'd in these Parts, they are extremely small Capsules of a membranaceous Structure and round Figure; each is furnished with an elastic Ring, which is finally opened by the Contraction of the Capsule, which is then found to be full of a minute Dust which is the Seed of the Plant. The Roots of this Plant are of the Thickness of a large Wheat Straw fleshy and full of Juice, they run transversely in the Earth, and are furnished with a great Number of Fibres. It grows in many Parts of *France* and *Italy* on the Brinks of Wells, and in the Cracks of Rocks where there is Moisture; it is not a Native of *England*, but we have it in many of our Gardens.

ADIANTUM ALBUM FILICIS FOLIO,
The Fern leaved white Maidenbair.

This is a somewhat larger Plant than the true Maidenhair, and has much more of the Look of the Fern Clafs. It grows to fix or eight Inches in Height, sometimes more.

The Stalks are slender and brittle, they are blackish at the Bottom, and greenish in the upper Part, of a smooth even Surface and somewhat glossy, especially toward the Root: they are naked about a third Part of their Length; from the two upper Thirds there are propagated on each Side little slender Branches; these stand sometimes opposite to one another, sometimes alternately; there are in general twelve or fourteen Pairs of these: these Branches, tho' very slender, are two or three Inches long at the Bottom, and gradually become shorter toward the Top; they all of them support a double Row of Pinnules which are of an oblong Form and deeply cut in, so that they seem composed of other smaller Pinnicles: the End of each of these Branches, as also the Top of the main Stalk terminate in long and narrow Leaves. These Pinnules are very soft and tender, they quickly wither, and they carry, as those of the other Ferns, their Seed Vessels at the Back; these are disposed in Form of little round Spots, and are at first green, but afterwards of a rusty brown.

The Root is as thick as a Man's little Finger, and creeps under or on the Surface of the Ground; it is green and full of Juice, and sends out a great Number of black Fibres. The Taste of the Root is much like that of our Polypody, sweetish but with an after Austerity and Astringency; the Leaves have much the same Taste also, and have a Sort of glutinous Viscidity when held long in the Mouth.

Its Place of Growth is like that of the former, the Sides of damp Rocks, and the Brinks and Walls of Wells.

ADIANTUM ALBUM RUTA MURARIA DICTUM,
White Maidenbair called Wall Rue.

This is an extremely little Plant and of no great Beauty. It never grows to more than two, or at the utmost three Inches high, and frequently not to more than an Inch, even when perfect and full of Seeds. It usually grows in large Tufts or Clusters, the Stalks are very slender and brittle, they are of a deep purplish or blackish Colour near the Root, and green in the upper Part; they are naked and single for the greatest Part of their Length, and toward the Top are divided into three or four little Ramifications, on which are placed small oblong Leaves of an angular Figure dentated about the Edges, and in some Degree resembling those of Rue: they have the Taste of all the other Maidenbairs, that is, a disagreeable sweet, with a Mixture of the austere and astringent. They are of a pale green on the upper Side, and on the under one are generally found loaded with a vast Quantity of dusty Matter, which is the Capsules and Seeds of the Plant. The Root is composed of a Multitude of blackish Fibres, which have the same Taste with the rest of the Plant: it grows on old Walls, and sometimes in the Cracks of Rocks.

All these three Species of Maidenhair possess the same Virtues. Chymically analysed, they yield first a limpid colourless Water of an obscurely acid Taste, but without Smell; after this comes a reddish Liquor of an acid Taste, with somewhat of the austere mix'd with it, and of an empyreumatic Smell; then

a reddish Liquor in small Quantity, containing a volatile alkaline Salt, and a small Quantity of a thick Oil. The Remainder in the Retort, calcined and lixiviated, yields a large Portion of a fix'd alkaline Salt. These with very little Variation are the Principles and the Proportions of them in all the Species, as well those here mention'd, as the others now wholly out of Use. They all attenuate viscid and tough Humours, and at the same time obtund the too acrid ones, and have an after Astringency, by which they restore the Fibres to their true Tone: they are good against Crudities of the Stomach, and against Diarrhoeas, and other Complaints arising from that Cause; they are good also in all Disorders of the Breast occasioned by a viscid Phlegm, and in all Obstructions of the Viscera. They are never trusted singly however in any of these Cases, but make a good Ingredient among others in Decoctions, &c. intended to do Service in them: they are also sometimes given in a slight Infusion in form of Tea against Obstructions of the Menfes when habitual, but not violent. They are Ingredients also in some of the Compositions of the Shops.

The Syrup of Capillaire is made from the true *Adiantum* or Maidenhair of France, with Narbon Honey, and there is another Kind of it brought from America, which is made of an Infusion of the *Adiantum Americanum*, a Plant somewhat resembling the true Maidenhair, but larger and more branch'd, and with Maple Sugar, a Kind of Sugar made from the inspissated Juice of the Maple, as the common Sugar is in the same Part of the World from that of the Sugar Cane.

CHAPTER XVII.

HORMINUM, Clary.

CLARY is one of the *Diandria Monogynia* of Linnæus, and one of the *Herbæ Verticillatæ* of Ray. There are many Species of this Genus, but the only one now used in Medicine is the common Garden Clary, the *Horminum Sclarea dictum* of C. Baubine, the *Sclarea Horminum vulgare* of other Authors. J. Baubine calls it, *Gallitricum Sativum*, and some Writers *Matrisylva major*, *Orvala*, or *Orvalla*, and *Sideritis Heraclea*.

It grows to three Feet or more in Height. The Stalk is as thick as a Man's Finger, square, hairy, hollow, and not very strong. It has several Knots, and is ornamented with a Number of Branches. The Leaves are very large and of an oblong Figure; they are placed two at every Joint, and are rough, hoary, and glutinous; they are very broad at the Base, and from thence gradually decrease to a Point, and are serrated at the Edges, and of a very strong Smell. The Flowers grow in long Spikes, they are of the labiated Kind, consisting of a single Petal divided into two Lips standing very far asunder; the upper Lip is large, very long, and of a falcated Shape, and the lower one is divided into three Segments, the middle one of which is largest, and is hollowed in the manner of a Spoon. The whole Flower is of a blueish Colour. The Cup is tubular and striated, and is glutinous to the Touch, and is divided at the Edge into five Spines, three placed above the Flower, and two below it. The Flowers

Flowers are each succeeded by four Seeds, rounded on one Side, and angular on the other, of a brown Colour and very glossy Surface, these are retain'd in the Cup which remains after the Flower is fallen, and becomes a Kind of Capsule for them. The Flowers stand in Clusters in the verticillate manner, and at the Base of these little Clusters of them, there here and there grows a Leaf small and extremely different from the others, these little Leaves are affix'd immediately by their Base to the Stalk, and are hollow'd and terminate in a Point; they are not rough or glutinous as the others, and are of a thinner Texture and Purple Colour. The Root is large, long, and woody, furnish'd with many Fibres, it is of a brown Colour, and in Taste is agreeable first, but afterwards it burns the Mouth. The whole Plant has a very strong Smell, and a bitter, but not very disagreeable Taste: It is not a Native of *England*, but is to be met with in most of our Gardens where it has obtain'd a Place on account of the great medicinal Virtues it has always had the Credit of possessing.

A Pound of fresh gather'd Clary in Flower, distill'd in a Retort, yields first a clear and colourless Liquor smelling of the Plant, and of a subacid Taste, in Quantity about three Ounces and a half; after this a Liquor still clear but more acid, and toward the last Runnings austere; this is in Quantity about nine Ounces; after this come over about two Drams of a Liquor still clear and colourless of a less acid Taste but saline, and after this about three Drams of a brown, acrid and empyreumatic Liquor, partly acid, and partly austere, and evidently impregnated with a volatile alkali; and finally a few Grains of a volatile alkaline Salt in a concreted Form, and about two Drams and a half of a thick Oil like Syrup. The Remainder in the Retort, calcined in an open Fire and lixiviated, yields about four Scruples of a fix'd alkaline Salt.

The *German* Vintners use the Flowers of Clary and those of Elder to give a different Flavour to their Rhenish and pass it for other Wines: its Virtues as a Cordial have been much celebrated, but at present it is less used than it was an Age or two ago, when the compound Waters and other Cordial Liquors usually had this for one of their principal Ingredients. The Seeds of it added to malt Liquors, while fermenting, are said to give them an intoxicating Quality, greatly superior to what they would have if brew'd much more strong without it. The dry'd Herb in Infusion or Decoction is given for the *Fluor Albus* in Women with other Medicines, some depend on it alone, but this is too uncertain. It is also good in Cholicks and Flatulencies of all Kinds and in Hysteric Complaints. *Hoffman* gives it great Praise as an Antispasmodic. It is also recommended by *Schwenkfeld* against Epilepsies, and has been in great Esteem as a Provocative to Venery.

The Seeds are so smooth, that on being put into the Eyes they give no Pain, but very effectually take out any accidental Foulness that has got into them; the Seed is no sooner got into so warm and moist a Place, than it becomes cover'd with a Mucilage, which involves and carries away with it any little loose Bodies that it meets with, and is taken out with them without Pain. The Seed is of a very mucilaginous and emollient Quality, and communicates it to Water or any fluid of that Kind with great readiness. The whole Plant has been commended also as a Vulnerary, and its Juice is an Ingredient in some Ointments and Plaisters.

PARTS of VEGETABLES

Used in MEDICINE.

CLASS the SECOND.

Stalks of Plants.

Of these the whole *Materia Medica* furnishes only two.

1. The True CALAMUS AROMATICUS.

2. The SCHÆNANTH.

Of S T A L K S.

CHAPTER I.

CALAMUS AROMATICUS VERUS,
The True Aromatic Reed.

WE have a Custom of calling the Acorus Root by the Name of *Calamus Aromaticus*, but very improperly. The true *Calamus Aromaticus* intended by all the old Authors who have used the Term, and prescribed as an Ingredient in their Compositions is not a Root, but the Stalk of a Plant of the *Calamus* or Reed Kind. We meet with it in Pieces of ten or twelve Inches long, and from the Thickness of a Goose Quill down to that of a Wheaten Straw; it is full of Knots or Joints in the manner of the Stalks of our common Reeds, and is hollow, and of a pale whitish or greyish yellow Colour. It is very light and easily broken, and is hollow, and the Cavity fill'd up with a soft and spongy medullary Substance of a white Colour very light, and resembling a Congeries of Cobwebs.

The whole is of an agreeable aromatic Smell when fresh broken, and of an acrid and bitterish, but very agreeable Taste. It is to be chosen strong and firm, of a yellowish Colour, full of Knots, and of a good Smell.

This is evidently the Drug which the Ancients meant by the Name of *Calamus Aromaticus*, and with which their Descriptions of it agree; yet this remained unknown for several of the intermediate Ages, and Authors of the greatest Credit persuaded themselves that our *Calamus Aromaticus* was the Thing meant by that Name. Among the Writers of this Opinion we find *Fuchsius*, *Brassavola*, and *Cordus*, with a Multitude of others. *Garzias* is the first of the Moderns who set the World right in this Particular: he found the true *Calamus Aromaticus* of the Ancients in the *East-Indies*, and described it properly, and brought

over a large Parcel of it. From that Time the true genuine Drug became known again in our Shops, and there is no Room to doubt but that it is the very *Calamus Aromaticus* of the old *Greeks*.

The Plant which produces it is described by *Prosper Alpinus* in his Book of *Egyptian* Plants under the Name of *Cassab Elderira*. The Root is small and creeping; the Stalks rise to three Feet or more in Height, and are round, jointed, and of the Thickness of a Man's little Finger at the Bottom, from whence they gradually grow smaller to the Top. The Stalk toward the Top divides into a Number of Branches, and is ornamented with Leaves which stand in Pairs, and are an Inch and half in Length, about an Inch in Breadth, and pointed at the End. From the *Alæ* of these Leaves there issue small Pedicles sustaining Clusters of yellow Flowers, somewhat resembling those of the *Lysimachia lutea*. These are succeeded by small, oblong, and pointed Seed-Vessels of a membranaceous Structure which contain a small blackish Seed. The Plant loves wet Places, and is common in many Parts of the *East-Indies* and *Ægypt*.

The *Indians* use it in their Sauces, and esteem it cordial and stomachic; *Dioscorides* tells us that it is a Diuretic, and a Promoter of the Menfes; and he recommends the Fume of it burnt with Turpentine for Diseases of the Breast. The *Indian* Women, according to *Garcias*, use it as an Uterine and Cephalic; with us it is only known as an Ingredient in the *Theriaca*, and is seldom to be met with in the Shops, the common *Acorus* being generally used in its Place.

CHAPTER II.

SCHÆNANTHUS, *Schænanth.*

THE Schænanth, or *Juncus Odoratus* of the Shops, is a dried Stalk of a Plant brought to us from *Arabia*, sometimes bare and naked, sometimes with the Leaves and Flowers on it, or with more or less Remains of them.

It is usually of eight or ten Inches in Length, sometimes considerably more; it is smooth and glossy on the Surface, and about the Thickness of a Wheat-Straw, but much more rigid and firm. It is round, jointed, and not solid, but has a Cavity in it filled up with a central Pith like that of our common Rushes. Its Colour is yellowish at the Base or toward the Root, but toward the Top it is purplish or greenish; it is very light, yet considerably hard, and is of a fragrant and aromatic Smell, in which we may discover something of a mixt Scent between that of the Rose and Pennyroyal. Its Taste is acrid and bitterish, but not unpleasant.

It is to be chosen fresh, sound, and clean, not dusty or decayed, of a good Smell and strong acrid Taste.

The ancient *Greeks* were well acquainted with this Drug; *Dioscorides*, *Galen*, and even *Hippocrates* frequently name it; they call it either simply *Schænos*, the Rush, or the sweet Rush, or the aromatic Rush. The Name by which we now call it expresses the Flower of a Rush, and is improper as we meet with the Stalks of the Plants, not its Flowers under this Name, unless we understand the Word *Anthos* not as intended to express literally the Flower of

of this Plant, but used figuratively to express its being the best and most eminent of the Rush Kind. *Galen* tells us that in his Time, the Flowers of this Plant were never brought over, nor had he ever seen them. *Dioscorides* on the other Hand prefers such Schænanth as has the Flowers upon it; and we meet with some such at Times among us.

The Plant is one of the *Triandria Digynia* of *Linnaeus*, and one of the *Herbæ Graminifoliæ Culmiferæ* of Mr. Ray. It is described by *Plukenet* under the Name of *Gramen Dactylum Aromaticum multiplici panicula Spicis tomento candidantibus, ex eodem Pediculo binis*; others have described it under the Name of *Juncus rotundus*, and *Juncus Aromaticus*, and *Schænanthus*. Its Roots are white, slender, and full of Fibres; its Leaves are glossy and four or five Inches long; its Stalks grow many from the same Root, and are about a Foot high; they have the same Kind of Leaves at their Joints that there are at the Root. The Flowers grow like those of Darnel in a double Series on the Stalk; the whole Plant is of a fragrant and aromatic Smell, and in some Parts of *Arabia* grows in such vast Abundance that it is the common Food of the Camels, whence our *English* Name of Camel's Hay for it.

The whole Plant, Stalk, Leaves, and Flowers, was what the Ancients required to be used in Medicine, when they prescribed Schænanth. But in after Times some recommended the Leaves only, as possessing more Virtue than all the Plant beside, and some only the Stalks. But the Virtue in Reality resides pretty equally in every Part of this Plant, as is manifest from every Part's possessing the same Taste and the same Smell, and having the same Pungency in the Mouth. It yields a very large Portion of essential Oil on Distillation, but this is not used in Medicine. The Ancients attributed great Virtues to the Plant as a Deobstruent and Promoter of the Menfes; at present it is never heard of in extemporaneous Prescription, and is only kept as an Ingredient in some Compositions.



PARTS of VEGETABLES

Used in MEDICINE.

CLASS the THIRD.

Dried Leaves of Trees and Plants.

Of these are only four.

1. SENA. 2. DITTANY OF CRETE. 3. MALABATHRUM. 4. TFA.

CHAPTER I.

SENA,
Sena.

SENA is a Leaf brought to us dried and picked off the Stalks, but often with many of the Fragments of the Stalks, and even the Seed-Vessels of the Tree among it. It is of an oblong Figure, broadest in the Middle, and terminating in a sharp Point at the End opposite to that where it grows to the Stalk: It is somewhat thick and fattish; of a pale green Colour with something of a yellowish Cast, and of a firm Texture. Its Smell is faintish but not disagreeable, its Taste subacid, bitterish, and nauseous. We have two Kinds of *Sena*, the *Alexandrian* and that of *Tripoli*; these are easily distinguished by the *Tripoli* Kind having more obtuse Points, being also larger, of a finer green, and somewhat rough to the Touch. We also sometimes meet with a third Kind, which is the *Mocha Sena*; this is distinguished by its Leaf being narrower, longer, and sharper pointed than even the *Alexandrian* Kind; and finally, sometimes we meet with the *Italian Sena*; this is easily distinguished from all the rest by the Leaf being large, broad, and rounded at the End, and having the Ribs standing high upon it; all these three Kinds are greatly inferior in Virtue to the *Alexandrian*, which should always therefore be chosen. The first Care in the buying it is to be assured from the Shape of the Leaf that it is this Kind, and it must then be seen that it be fresh and of a good Smell, soft to the Touch, and cleared from Stalks. The Leaves ought also to be entire, and of a yellowish green Colour, not spotted with black; and finally on Infusion it should give a light Colour to Water.

The Pods that come over among the Leaves of *Sena* are also used by some in Medicine; they are said to be preferable even to the Leaves themselves; they are membranaceous, flat Seed-Vessels, of an oblong, considerably broad, and crooked Figure, and of a dusky green Colour; they contain flattened Seeds of a deep blackish Colour in some, and paler in others, according to the different Maturity or the different Drying.

The ancient *Greeks* and *Romans* were wholly unacquainted with *Sena*; it has been imagined by some indeed, that *Dioscorides* and *Galen* knew it, because *Mesue* quotes *Galen* in speaking of his Decoction of *Sena*; but we find no Mention of it in *Galen*; and this is not the only Place in which the *Arabians* have quoted the old *Greeks* falsely. *Ruellius* is for having *Sena* known very early indeed to them, and supposes the *Colutea* of *Theophrastus* to be it. But *Matthioli* has fully convinced the World of the Error of this. The *Arabians* were the first who brought it into Use; and we find *Averrhoes* plainly telling us of it as a Drug new at this Time, and wholly unknown to the *Greeks*. *Serapio* is the first Author in whom we find its Name, and after him, the rest of the *Arabians* had it: Among the later *Greeks*, *Actuarius* is the first who names it.

The Shrub which produces the true *Alexandrian Sena*, which is the only Kind that ought to be used in the Shops, is one of the *Decandria Monogynia* of *Linnaeus*, and one of the *Frutices siliquosæ flore uniformi* of Mr. Ray. It is described by the botanical Authors under the Names of *Sena*, *Sena Orientalis*, and *Sena Alexandrina Foliis acutis*. It is a small Shrub, seldom growing to more than six or seven Feet high; its Twigs are tough and long, and from them there grow alternately, pinnated Leaves, each consisting of four, five, or six Pairs of *Pinnæ* or single Leaves of the Figure described above. There is no odd Leaf at the End of the *Pinna*; the Flowers are yellow veined with Purple, and stand in long Series at the Tops of the Branches; the Fruit is the flat crooked Pod above described. It is propagated for Use in many Parts of *Persia*, *Syria*, and *Arabia*. The great Mart for it is however in *Ægypt*, and most of what we have is brought to us immediately from *Alexandria*.

Sena chymically analysed yields an alkaline Phlegm of an urinous Smell, to the Weight of one fifth Part of the whole. After this there comes over an acid Phlegm, in Quantity equal to about two Thirds of the former; or if the Fire be urged too violently under the Retort, these will come promiscuously together. After these it will yield a thick disagreeable Oil at the Rate of about an Ounce and half from the Pound, and a small Quantity of a volatile alkaline Salt in a dry Form; this however is not more than about fourteen Grains from the Pound. The Remainder in the Retort, calcined and lixiviated, yields a fixed alkaline Salt, in the Quantity of about two Drams from the Pound. *Sena* yields by Water alone, an Extract that has all the Virtues of the Leaf itself, and purges in particular very briskly.

Sena, in whatever Form, is one of the best and most frequently used Purges. It is apt however to gripe if given without Correctives; those most in Use for this Purpose, are Coriander, Aniseed, Ginger, Raisins, and Salt of Tartar. These are occasionally added to the Infusion, according to the Nature of the Case and Circumstances of the Patient; but there is no Corrective so effectual as the diluting it with a large Quantity of the Liquid its Infusion is taken in. Instead of a Dose of it being confined to two or three Ounces of Liquor, if it be given in a Quart, and a large Quantity of Broth or some other fatty Liquor drunk after it, it hardly gripes at all. This, and the Method of correcting it by the alkaline Salts, are the only proper ones, because they leave it its full Force as a Purgative, and indeed rather add to it than otherwise. The others at the same Time that they prevent its Griping, abate its

its Effects. Wherever there is Inflammation in the Case, Sena is to be avoided as a Purge ; in Hæmorrhages and in Disorders of the Breast it is never to be given, in all other Cases it is a safe and excellent Cathartic.

The Pods of Sena are observed to gripe the Patient less than the Leaves, but then they also purge much less ; they require to be given in a much larger Dose, and then operate but very languidly. It is sometimes given in Powder, but the Dose is large, two Scruples or a Dram being necessary, and it purges more disagreeably, and always with more griping than when given in Infusion, which is now the universal Way. The Custom was to boil it one while, but we have found that this renders the Dose much more nauseous, and yet its purgative Virtue less. An Infusion in Water made boiling hot, and in that State poured on it, and suffered to remain on it while warm, is found vastly preferable. The Taste of Sena is disagreeable in whatever Form it is given, but this is much taken off by mixing the Leaves of the common Water Betony, or more properly Water Figwort, the *Scrophularia Aquatica* with it in Infusion. This Corrective was discovered in the *Brasils*, and the Leaves of the Plant cut small were sent over to *France*, as a great Secret, under the Name of *Iquetiaia* ; but Mr. *Marchand* found out that they were no other than the Leaves of this common Plant.

The Extract of Sena purges more briskly than the Leaves, either in Substance or Infusion, but it also gripes more. The common Form of giving it is in the Infusion, which the late College Dispensatory orders to be made occasionally two Ways, simply, and with the Juice of Lemon, and the Peel of the same Fruit.

INFUSUM SENÆ COMMUNE,
Common Infusion of Sena.

Take Leaves of Sena an Ounce and half, Crystals of Tartar, or as they are more usually called, Cream of Tartar, three Drams, *Cardamom* Seeds separated from the Husks two Drams, Water one Pint. Boil the Crystals of Tartar in the Water till they are dissolved, then pour the Water boiling hot on the Sena and the Seeds ; let it stand in Infusion till cold, and then strain it off. Two or three Ounces of this Infusion is the usual Dose.

INFUSUM SENÆ LIMONIATUM,
The Infusion of Sena with the Lemon.

Take Leaves of Sena an Ounce and half, of the yellow of fresh Lemon-Peel an Ounce, Lemon Juice an Ounce, of boiling Water a Pint : Let all stand together till cold, and then strain off. This makes a much more pleasant Infusion than the former, and though contrary to the common Opinion of Acids weakening the Tinctures of Vegetables in Water ; it is found to operate very well thus prepared ; and indeed the nauseous Taste of the common Infusions of Sena is rather to be attributed to the great Quantity of alkaline Salt used in the making them, than to even the Sena itself.

A Tincture of Sena in Spirit with Carminatives and other Correctors, is the famous *Elxir Salutis*, called by the vulgar *Duffey's Elixir*.

CHAPTER II.

DICTAMNUM CRETICUM,
Dittany of Crete.

THE *Dictamnium Creticum* of the Shops is a Leaf short and broad, and of a somewhat roundish Figure. It is very thick and of a pale greyish green Colour, very light, cover'd with a vast deal of a downy Matter, and somewhat tough. The Leaves are sometimes brought to us clean and separated from all extraneous Substances, but more usually we meet with a great Quantity of the Stalks among them, and frequently with the Leaves yet growing to them, and with some Spikes of the Flowers of the Plant which are purplish, and of a very fragrant Smell. The Leaves themselves are also of a very aromatic and agreeable Scent, and of an acrid, pungent and bitterish Taste.

They are brought to us from the Island of *Crete*, and sometimes from other Places where they are raised in Gardens for Sale, but the Cretic, where the Plant is wild, are always the most fragrant and of the greatest Virtue. The Leaves are to be chosen fresh, clean, as free from Stalks and other Filth as may be, of a good Smell and Taste, whole, not broken, and cover'd with a thick woolly Matter.

Dittany of *Crete* was well known to the ancient *Greeks* and *Romans*. *Theophrastus*, *Dioscorides*, *Galen*, and *Pliny*, all mention it under the Names *Dictamnus*, *Dictamnon*, and *Dictamnium*; and the Poet *Virgil* records great Virtues of it under the same Name. *Dioscorides* and the other *Greek* Writers talk of three Kinds of *Dictamnus* indeed, 1. The Cretic Kind, which they call also wild Pennyroyal. 2. *Pseudodictamnus* or Bastard Dittany: And 3. The *Sisymbrium* leav'd *Cretan* Dittany. The first of these is the Kind used by us in the Shops, as is evident from the Descriptions they all give of it, though *Dioscorides* by some Accident is made to say, that this bears neither Flowers nor Seeds. This however can be no more than an Error in the Copies of that Author, for long before him, *Theophrastus* declares its bearing Fruit, and adds, that that Part of the Plant never came into Use, but only the Leaves. *Dioscorides* has shewn himself too well acquainted with *Theophrastus* in other Particulars, to have been left ignorant of a thing that Author so plainly declares, had he had no better Proof of it. There is no Doubt but that *Virgil* meant this *Dictamnus* by the Kind he celebrates, and he plainly says that it has Flowers: His Description of the Plant is, that its Leaves were hoary and its Flowers Purple. *Pliny* indeed joins in the Account of its having neither Flower nor Seed, but as we know *Pliny* to be an errant Plagiary from *Dioscorides* in these Matters, all we can infer from this is, that the Error in the Copies of *Dioscorides* was very early there. *Pliny* even contradicts himself on this Occasion, for collecting also from *Theophrastus* on the same Subject, he says in the same Sentence, the Leaves only of this Plant are used. An Account very properly given by *Theophrastus*, who allows its Flowers but very oddly, following an Assertion, that the whole Plant consisted only of Leaves.

The Plant which affords us the *Dictamnium Creticum* of the Shops, is one of the *Decandria Monogynia* of *Linnaeus*, and one of the *Herbæ verticillatæ* of *Ray*.
It

It is described by *Tournefort* under the Name of *Origanum Creticum latifolium*, and by other botanical Authors under that of *Diētamnus Creticus* or *Cretensis*.

It is a small Plant, the Roots are brown and fibrous, the Stalks woody, and not more than six or eight Inches high. The Leaves grow two at each Joint of the Stalks, the Flowers grow in a Kind of Spikes at the Top of the Stalks and Branches, and are squammous and of a purplish Colour. Each of these is succeeded by four very small roundish Seeds. It grows in its wild State on barren Mountains, and in the Fissures of Stone.

Dittany of *Crete* abounds with a fine essential Oil, of a hot and firey Taste, and a volatile Salt of the alkaline Kind. The Ancients have recorded almost Miracles of its Virtues in the Cure of Wounds, and in the Prevention of Mischief from venomous Bites; they tell us that even the Beasts were informed of its Virtues on these Occasions, and had Recourse to it when hurt. They also gave it to promote the Menfes and to assist Delivery, in the expelling the Secundines, and in malignant Fevers; with us it is wholly out of Use, except as an Ingredient in some of the officinal Compositions.

CHAPTER III.

MALABATHRUM, *Indian Leaf.*

THE *Malabathrum* of the Shops is a large Leaf of an oblong Figure, considerably broad, and of dusky green or somewhat brownish Colour. It is of a smooth Surface, very thick and solid, and terminates in an obtuse Point: Its middle Rib is very high, and on the Sides of it there run two others, all large, and all carried longitudinally from the Pedicle to the Point, not propagated laterally from the main Rib, as in the generality of Leaves. Its Smell is aromatic and agreeable, somewhat resembling that of a Mixture of Cloves and Cinnamon: Its Taste is somewhat acrid and bitterish, but very aromatic. *Malabathrum* is to be chosen in large Leaves, entire, and such as are not easily broken, and as fresh as may be; when it has lost its Smell and Taste, and is become of a dark brown, it is of no Value.

The old *Greeks* were very well acquainted with the *Malabathrum*, they call it *Malabathrum* and *folium Indicum*. The *Arabians* call it *Sadegi*, and some of the Moderns *Tamalapatri*. Though the Ancients were however well enough acquainted with the Leaf as a Drug, they knew nothing of its Origin: *Dioscorides* imagin'd that it swam upon the Waters in the manner of Duckweed. *Pliny* tells us, it was the Leaf of the Indian Spikenard, but this was an Error older than the Days of *Dioscorides*, and which he had rejected. It would have been somewhat better if *Pliny* had taken his Opinion on this Subject, as he does on most of this Kind. The Tree which produces the *Malabathrum* is one of the *Enneandria Monogynia* of *Linnaeus*, and of the *Arbores fructu Calyculato* of *Ray*. It is described by *Ray* under the Name of *Canella Sylvestris Malabarica*, and in the *Hortus Malabaricus* by that of *Katon Kerna*. It is a large and lofty Tree in its manner of Growth, and in its Flowers and Fruit much resembles the Cinnamon Tree. Its Leaves when full grown are ten Inches or more in Length, and six or eight in Breadth. The Flowers stand in Clusters in the manner of

Umbels on the Tops of the Branches, and are of a greenish white Colour; the Fruit is of the bigness of our Currant. It is common in *Malabar*, principally upon the Mountains. It flowers in *August*, and its Berries are ripe in *December* and *January*.

The Ancients have said much of the Virtues of the *Malabathrum*, they call it Stomachic, Sudorific, and Cephalic. *Dioscorides* ascribes to it all the Virtues of the Indian Spikenard, but he says, it possesses them in a superior Degree. At present it is utterly disregarded, and is only kept in the Shops as an Ingredient in the *Theriaca Mithridate* and some other Compositions.

CHAPTER IV.

THE A, Tea.

THE People who deal in Tea distinguish a vast many Kinds of it, as they differ in Colour, Flavour, and in the Size of the Leaf. These are all however the Leaves of the same Tree, only differing according to the Seasons at which they are gather'd, and the manner of the drying. To enumerate these several Sub-distinctions were endless, the general Division is into three Kinds: The ordinary Green Tea, the finer Green Tea, and the Bohea; to one or other of these all the other Kinds may be refer'd.

The common Green Tea has somewhat small and crumpled Leaves, much convoluted and closely folded together in the drying. Its Colour is a dusky green, its Taste sub-astringent, and its Smell agreeable. It gives to Water a strong yellowish green Colour. All the ordinary Green Teas are referable to this Kind.

The fine Green Tea has larger Leaves, less rumpled and convoluted in the drying, and more lax in their Folds. It is of a paler Colour, approaching to the blue green, and is of an extremely pleasant Smell and of a more astringent, yet more agreeable Taste than the former. This gives a pale green Colour to Water; and to this Kind are to be refer'd all the higher priced Green Teas, the Hyson, Imperial, or by what ever other Names they are distinguished.

The Bohea Tea consists of much smaller Leaves than either of the other, and those more crumpled and closely folded than in either. It is of a darker Colour than the others, often blackish, and is of the Smell and Taste of the others, but with a mix'd Sweetness and Astringency, in some Degree resembling the Taste of the *Terra Japonica*, which the Green Teas want. The Green Teas have all somewhat of the Violet Flavour; the Bohea has naturally somewhat of the Rose Smell.

The Tree which produces this valuable Commodity is one of the *Polyandria Monogynia* of *Linnaeus*. It is described by *Breynius* under the Name of *The Sinensium sive Asia Japonensium*; by *Bentius* under that of *Theae frutex*, and by *Plukenet* under that of *Euonymo affinis arbor orientalis nuciifera flore roseo*. It is a small Shrub, its Roots run under the Surface of the Earth, and it seldom rises to more than five or six Feet in Height. It is very branch'd and spreading, its Leaves are oblong, pointed at the End, and serrated at the Edges. Their

Their Length, when full grown, is somewhat more than an Inch, and their Breadth about half as much. The Flowers are large and whitish, the Cup they stand in is very small: The Fruit, when ripe, is of the Size of a small Nut, sometimes round, sometimes trigonal, and sometimes contains three, sometimes two, and sometimes only one Cell, each Cell containing one Seed or Kernel, of a sweet Taste when first taken into the Mouth, but afterwards bitterish and nauseous.

The Shrub is cultivated with great Care in *China* and *Japan*. It thrives best in a loamy Soil with a considerable Mixture of Sand in it, and loves a flat Situation and an open Exposure. They raise the Shrubs from Seed, and take no farther Care of them, than the keeping them free from Weeds for the first three Years, at the End of this Time they begin annually to gather the Leaves for Use. *April* and *May* are the Months in which the greatest Collections are made: The Women take the Charge of it upon them, and they do it principally in the middle of the Day.

The young Leaves gather'd from the new Shoots, are kept separate from those which are taken from the old Branches of the Tree, and upon such Distinctions as these, and on the separately gathering the full grown, and the only budding Leaves, are founded the Differences of our Teas.

The Leaves when gather'd are dry'd with great Caution, partly by the help of Heat, partly by the Air, and when thoroughly prepared will keep a long Time fresh and good. Every Parcel when dry'd, though gather'd promiscuously, is separated, according to the Largeness and Smallness of the Leaves, into three or four different Kinds, each of which is of a different Price, and has its different Name.

The Bohea Tea is gather'd before the Leaves are perfectly open'd, and it is made to undergo a greater Degree of Heat in the curing, to which its Colour and peculiar Flavour are in a great measure owing.

An Infusion of one Kind or other of Tea is the common Drink of the *Chinese*. The poor People throw in a Quantity of the smaller Leaves and Refuse of the Drying into Water, in a large Kettle, and keep it hot all Day long as their common Drink: The richer People use the very finest Tea, and that with great Pomp and Magnificence. The *Japonefe* grind their Tea to Powder and then mix it with hot Water, stirring it up till it froths in the manner of our Chocolate. The *Chinese* draw the Tincture from the whole Leaves as we do: and as they make it very strong they dilute it with Water to a proper Degree, and hold Sugar in their Mouths as they drink it: The *Japonefe* never do this.

The *Oriental*s extol Tea as the greatest of all Medicines, and make it a Remedy for almost all Disorders. We do not find such wonderful Effects from it here, and some have attributed this to our intemperate Way of living, or to our not taking the Tea in sufficient Strength and Quantity. It is more probable however, that the *Chinese* and *Japonefe*, in the manner of the *East* in all other things, cry up what is of any Value, much higher than it deserves.

Tea moderately and properly taken, acts as a gentle Astringent and Corroborative. It strengthens the Stomach and Bowels, and is good against nauseas Indigestions and Diarrhoeas. It acts also as a Diuretic and Diaphoretic, but its Virtues in these Particulars are in a great measure to be attributed to the Quantity
of

of warm Water drank on the Occasion. The Leaves in Powder act as an Astringent, but they have nothing of this diuretic Quality. The good Qualities of Tea do not prevent its often doing Harm. The immoderate Use of it has been very prejudicial to many, and ought to be avoided by all. Even in *China*, where the Virtues of Tea are so vastly extoll'd, the People who drink it to great Excess are often thrown into Diabetes and die emaciated by it.

PARTS of VEGETABLES

Used in M E D I C I N E.

C L A S S the F O U R T H.

F L O W E R S.

These are described in the following Order.

- | | | |
|-------------------------|------------------|----------------------|
| 1. STÆCHAS. | 7. CLOVES. | 13. VIOLET. |
| 2. LAVENDER. | 8. BORAGE. | 14. PEACH. |
| 3. ORANGE. | 9. BUGLOSS. | 15. CAMOMIL. |
| 4. ROSEMARY. | 10. SAFFRON. | 16. ELDER. |
| 5. LIME. | 11. BALAUSTINES. | 17. COWSLIPS. |
| 6. LILLY of the Valley. | 21. ROSES. | 18. St. JOHN'S WORT. |

Of F L O W E R S.

C H A P T E R I.

STÆCHAS ARABICA,
Arabian Stæchas.

WHAT we call *Stæchas Arabica*, and sometimes *Flores Stæchados Arabice* in the Shops, are the flowery Heads of an aromatic Plant dry'd, not the single Flowers separated from them. They are a Kind of squamous or chaffy Bodies of an oblong Figure, from half an Inch to an Inch in Length, and half as much in Diameter, terminating in an obtuse Base at one End, where they have been joined to the Stalk, and at the other, when perfect, ornamented with

with a foliaceous Matter of a purple Colour. The Heads themselves are of a greyish Colour, with more or less Purple among it, they are very light, easily broken to Pieces between the Fingers, of a fragrant and agreeable Smell, and of a very aromatic Taste, pungent and somewhat bitterish. They are to be chosen fresh and entire, not broken; dry, light, and of a fragrant Smell, such as are dusty and have lost their Smell, have also lost their Virtue.

The Plant which produces them is one of the *Didynamia Gymnospermia* of *Linnaeus*, and one of the *Suffrutices verticillatæ* of Mr. Ray. It is described by all the botanical Writers under the Names of *Stæchas purpurea*, and *Stæchas Arabica*. It grows to two or three Feet high, its Stalks are hard and woody, its Leaves grow two at each Joint, and are narrow, oblong, hoary, and of a very fragrant Smell. At the Tops of the Stalks stand the Heads which are the *Stæchas* of the Shops; they are composed of a Number of little Leaves of a roundish Figure pointed at the Ends and hoary; from the *Alæ* or Sinus's of these proceed the Flowers which are small and labiated; the Heads of *Stæchas* are to be collected for Use just as the Flowers are beginning to open; they abound in a fine fragrant essential Oil, which they readily yield on Distillation in the Alembic with common Water.

Stæchas is cephalic, diuretic, and a Promoter of the Menfes. The *Arabians* mention a purgative Virtue in it, but that does not appear to be very great; they talk of it also as a great Alexipharmic and Resister of Poisons; but these are Virtues not at present found in it: the present Practice seems to set it much upon the same footing with Lavender, which being more common has almost thrown this out of Use. It is used in the *Theriaca Mitbridate*, and some other of the old Compositions, otherwise it is very little heard of in the Shops.

CHAPTER II.

FLORES LAVENDULÆ, *Lavender Flowers.*

THE Lavender Flowers are small, of the labiated Kind, and of a fine Sky blue Colour. They consist each of a single Petal divided into an upper and a lower Lip; the upper one is divided into two Segments, the lower into three; the Cup is long, narrow, lightly striated, and of a pale green Colour.

The Flowers are not separated from these Cups for medicinal Use, but are stripp'd off with them from the Plant and they are used together. The Plant which produces them is one of the *Didynamia Gymnospermia* of *Linnaeus*, and one of the *Suffrutices verticillatæ* of Ray. The Species used in our Shops is the common Lavender of our Gardens, and is the *Lavendula latifolia* of C. Bauhine, the *Lavendula major sive vulgaris* of Ray; others have called it *Spica Pseudonardus*, *Nardus Italica*, and *Casia Alba Theophrasti*.

It grows in the Form of a little Shrub, its Height is usually three or four Feet, and its Trunk not over large. Its Branches are extremely numerous and form a very thick Head; they are square, of a pale green Colour, and very long and slender; the lower Leaves are very numerous and stand irregularly, the upper ones are placed in Pairs opposite to one another, and are oblong, very narrow,

424 LAVENDER FLOWERS.

narrow, and very thick and fleshy. They are of a hoary green Colour, and are viscous to the Touch, and of a very strong but agreeable Smell, and a highly aromatic Taste. The Flowers grow in little Clusters round the Tops of the Branches and make a Kind of flat Spike; they stand thick and close and are small, of a blue Colour and of a labiated Form; the upper Lip is erect and bifid, the lower one is divided into three Segments; the Cup is long and narrow, it remains on the Plant after the Flower is fallen, and contains as a Capsule four Seeds. The Root is woody and consists of a small Body, divided very soon into a great Number of Fibres. The whole Plant has a highly aromatic Smell and Taste.

A Pound of Lavender Tops distill'd in a Retort, yields first about four Ounces of a limpid and colourless Phlegm of a fragrant Smell, and somewhat acid Taste; after this come over about seven Ounces of a Liquor still limpid and colourless, of a strongly acid Taste, and toward the End of an austere one. Each of these Liquors brings over with it also a few Drops of the essential Oil of the Plant; after these there come over about three Drams only of a brownish Liquor of an empyreumatic Smell, and of a strongly acid and austere Taste; then about twice that Quantity of another brownish Liquor, highly impregnated with a volatile alkaline Salt, and yet somewhat acid withal; and finally about six Drams of an Oil partly thin and fluid, partly thick, like Lard or Butter. The Remainder in the Retort, calcined in an open Fire and lixiviated, yields a Dram and half of a fix'd alkaline Salt, which is an uncommonly large Proportion.

The essential Oil of Lavender contains so much of an Acid in it, as to give many of the usual Proofs of it, particularly that of turning an Infusion of Violet Flowers red. Lavender has at all times been famous as a cephalic, nervous, and uterine Medicine; it gently stimulates the Nerves, and restores them to their proper Tone, when they are become too lax: it is a good Medicine in Vertigoes, Lethargies, Spasms, and even in Palsies and Apoplexies. It dispels Flatulencies also, and is good in Suppressions of Urine, and of the Menses. Some prescribe the Flowers dry'd and reduced to Powder, a Scruple for a Dose; but the more eligible way is to drink a slight Infusion of it in the manner of Tea. A distill'd simple Water of it may also be made, but this, tho' the Herb is so very fragrant, is but an unpleasant one; the distill'd Water with Spirit of Wine called Lavender Water, is well known for its Fragrancy and cephalic Virtues; but is principally used externally, the Compound Spirit or Palsy Drops, as they are called, having banish'd it from all internal Use. The Oil may be taken inwardly two or three Drops for a Dose, but this Spirit perfectly answers the Purpose of it, and is more agreeable.

It is to be observed however, that Lavender, as well as all the other Aromatics, is to be used but sparingly, and with Caution; for when immoderately taken it, like the rest, heats and inflames. The Flowers chew'd in the Mouth draw down a great Quantity of saliva, and are good in Catarrhs; they are also used externally by way of Cataplasm, for Head-achs and many other Complaints.

Beside the common Lavender in Use with us, there is a smaller Species well known in *France*, the Oil of which, under the Name of Oil of Spike, is also frequently mention'd with us. This smaller Species of Lavender is described by the botanical Writers under the Name of *Lavandula angustifolia*, *Lavendula*
brevis

breuiore folio and *Spica Italica*. The *French* call it female Lavender, it resembles the common Lavender in all Respects, but that it is much smaller and the Flowers larger; the Leaves are much smaller and are of a darker green Colour; the Spikes of Flowers also are shorter, and the whole Plant is of an agreeable and aromatic Smell, but that less strong than that of the common Lavender. It grows wild in many Parts of *France* and *Italy*. On Analysis it yields the same Principles, and in much the same Proportion with the common Lavender, except that its essential Oil is more copious.

The Oil of Spike of our Shops is the Oil of this smaller Species of Lavender distill'd in the common way by the Alembic and separated from the Water; its Virtues in Medicine are the same with those of the Oil of common Lavender, but our Artificers use more of it than the Apothecaries, and wanting it at a cheap Rate, they have taught the Druggists, who used to import and sell it to them, so many ways of adulterating it, that at present it is scarce any where to be met with genuine, and so coarse an Ingredient as common Oil of Turpentine. is used as the Basis of all the Counterfeits.

They also sometimes adulterate it with Spirit of Wine, but both these Cheats are easily discover'd; that with Spirit of Wine by only mixing the whole with Water, in which Case the Water uniting with the Spirit, leaves the Oil at the Top alone, reduced considerably indeed in Quantity, but pure and genuine; that with Oil of Turpentine is as easily discover'd by burning a spoonful of it, for the genuine Oil of Spike burns with a clear Flame and without Smoke, and its Smell while burning is very fragrant; that on the contrary, in which there is Oil of Turpentine mix'd, burns more furiously, emits a thick Smoke, and is of a very bad Smell.

Our Artificers use the Oil of Spike principally in their Varnishes, but till they will be content to pay a better Price for it than any of them will at present, they are not to expect to have it genuine.

C H A P T E R III.

FLORES AURANTII,
Orange Flowers.

THE *Flores Aurantii* are beautiful and extremely fragrant. They are white in Colour, and consist each of five moderately large Petals, expanded in a circular Form. These Petals surround a Cluster of white *Stamina* with yellow Apices, and these are to be separated from them when intended for medicinal Use, the Petals of the Flower only clear'd from the Cup in *Stamina*, being expected to be used on all Occasions.

The Tree which produces these is of the Number of the *Polyadelphia Icesantia* of *Linnaeus*, and of the *Arbores Pomiferæ* of *Ray*. It is very well known among us by the Name of the Seville Orange Tree, and is described by botanical Authors under the Name of *Melus Aurantia fructu acris*, and *Aurantium acris medulla vulgare*. It does not grow to any great Height, the Trunk and large Branches are cover'd with a smooth and greenish Bark, but the younger Shoots are of a beautiful green; the Wood is white, firm, and very fragrant in its Smell. The Leaves are somewhat like those of the Laurel, thick, smooth,

426 R O S E M A R Y F L O W E R S.

of a fine glossy green, and terminating in a blunt Point ; the Pedicle is alated, or has a little foliaceous Rim on each Side, running to the Base of the Leaf, and broader there than in any other Part. The Flowers grow in little Clusters, and are succeeded by Fruits of a globular Figure, cover'd with a thick Rind, yellow and bitter on the outside, white and insipid within: this is easily separated from the pulpy Matter of the Fruit which is divided into eight Lobes readily separating from one another, and full of a vesicular Pulp with an acrid Juice, and surrounding a Number of oblong Seeds, cover'd with a tough Rind and bitter within.

The clean pick'd Petals of the Orange Flower, distill'd in a *Balneum Mariæ*, yield a small Quantity of a limpid and extremely fragrant Water of a bitterish Taste at first, and faintly acid toward the last Runnings. A Pound of the same Petals, dry'd and distill'd in a Retort, yield first about four Ounces of a turbid and reddish Liquor, the first Runnings of which have somewhat of the Fragrancy of the fresh Flowers, but what comes after these is of an acid and pungent Taste, and the last Runnings of all of this first Liquor are very strongly acid and empyreumatic: after all this is drawn off, there comes over a turbid whitish Liquor, of a mix'd, acid, and volatile alkaline Taste, in Quantity about two Ounces, and after that about five or six Grains of a volatile alkaline Salt: And finally a very large Quantity, more than an Ounce and a half, of an Oil partly thin and fluid, partly thick and like Butter. The Remainder in the Retort, calcined in an open Fire and lixiviated, yields near an Ounce of a fix'd alkaline Salt.

Orange Flowers are very justly esteemed one of the finest Perfumes in the World, a Water is distill'd from them which has their fine Scent in great Perfection, and has beside its Fragrancy many medicinal Virtues. It is impregnated with a Portion of the fine Oil of the Flowers, and by that Means becomes a Cordial, Stomachic and Carminative. *Matthiolus* recommends it as a sudorific in Fevers, and orders four Ounces or six of it at a Dose, to be repeated once in five or six Hours, but we do not pay any regard to it in this Intention.

C H A P T E R IV.

FLORES ROSMARINI,
Rosemary Flowers.

ROSEMARY Flowers are small, but they are not without their Beauty. They are of the labiated Kind, and consist of one Petal divided into two principal Parts, gaping widely from one another at the Mouth, or opening. The one of these, which is placed upwards, is turn'd somewhat back, and is divided again into two, and makes as it were two Horns; the lower Part is again divided into three Segments, and the middle one of these is hollowed in Form of a Spoon, and has at its Extremity a Fissure or little Nick, dividing it into two in that Part. The whole Flower is of a pale bluish, or greyish white, and is of an extremely fragrant Smell and aromatic Taste.

This Flower is on some Occasions expected to be pick'd clean from the Stalks and Cup, in order for medicinal Use, as for the making the Conserve; but what is

is generally understood by the Term Rosemary Flowers, is not the naked and simple Flower, but the Flowers with their Cups, and with the young Leaves about them ; or as it may be properly enough expressed, the flowery Tops of Rosemary ; the Summits of the Branches loaded with Flowers being pulled off, or the Clusters of Flowers with a more considerable Quantity of the Leaves about them. It is in this State that they are used for the making of Hungary Water, and on most other Occasions in the Shops.

The Shrub that produces them is one of the *Diandria Monogynia* of *Linnaeus*, and one of the *Verticillatæ fruticosæ* of *Ray*. It is sufficiently known among us under the Name of Rosemary ; the botanical Writers have described it under the Names of *Rosmarinus Coronarius fruticosus*, *Rosmarinus hortensis angustiore folio*, and *Coronarius Libanotis*, and *Rosmarinum vulgare*.

It is a stout and robust little Shrub ; it rises to four Feet or more in Height ; its Wood is of a whitish Colour and close Grain ; sound, firm, and of a fragrant Smell ; and is covered with a brown, thin, and rough Bark ; the younger Branches are greener, but they are covered with a whitish Hoariness, and are tolerably flexible and tough. The Stem of the Trunk and a Part of the lower Branches are naked ; but the rest are very thickly beset with Leaves, which are oblong and narrow, pointed at the End ; of a dark green on the upper Side, and white underneath, and of a very strong and agreeable Smell. They are viscous also to the Touch, and after much handling they leave a soft and glutinous Matter on the Fingers, which may be rolled off and separated ; and when collected into Lumps, is found to be either Wax itself, or a Matter so very nearly allied to it, that the Bees seem to have very little to do with it, in order to the forming it into the Substance we call by that Name. The Flowers stand in striated Cups divided at the Edges, and of a whitish green Colour, among Clusters of Leaves which are usually gathered with them as before observed. The Flowers are each succeeded by four Seeds ; the Root is hard and woody, and is usually divided into a great Number of Branches. It is not a Native of *England*, but is cultivated every where with us in Gardens.

A Pound of the picked Flowers of Rosemary, distilled in a Retort, yield first between four and five Ounces of a limpid and colourless Liquor, smelling of them, but not very strongly, and of a somewhat faintly acid Taste, with a Mixture of a seeming alkaline Flavour with it. After this come over about eight Ounces of a Liquor still clear but more strongly acid, and toward the last Runnings somewhat austere ; after this about two Drams of a brown empyreumatic Liquor, of a strongly acid, and at the same Time, a strongly alkaline Taste ; and after this about an equal Quantity of a Liquor yet more reddish and empyreumatic, impregnated with a volatile alkaline Salt, with about fifteen Grains of the same Salt in a concreted Form afterwards ; and finally there come over three Drams or more of a thick and blackish Oil. The Remainder in the Retort, calcined in an open Fire and lixiviated, yields about a Dram of a fixed alkaline Salt.

Rosemary has been at all Times a Favourite Shrub in Medicine ; it is full of volatile Parts, as appears by its Taste, Smell, and Analysis. It is a very valuable Cephalic, and is good in all Disorders of the Nerves, and in hysteric and hypochondriac Cases. It is good in Palsies, Apoplexies, Epilepsies, and Ver-

tigoes. It strengthens the Sight, and sweetens the Breath. It is greatly commended by some against Obstructions of the *Viscera*, particularly of the Liver and Spleen, and in the Jaundice. The Flowers have the Credit of being great Cordials, and some imagine they even possess the Virtues of the whole Plant in a more exalted Degree than any other Part. The flowery Tops, Leaves, and Husks, together with the Flowers themselves, are much fitter for all Purposes than the Flowers alone.

Rosemary distilled simply with a gentle Heat, yields a fragrant Water, called Dew of Rosemary; distilled with Water in the usual Way in an Alembic, it affords a Water tasting strongly of it, but of a less agreeable Smell; with rectified Spirit it makes the fragrant and cephalic Liquor called *Hungary Water*. A Conserve is also made of the Flowers very proper for reducing the Ingredients of cephalic Electuaries into Form; and it is an Ingredient in a great many of the Compositions of the Shops.

CHAPTER V.

FLORES TILIÆ, *Lime Tree Flowers.*

THE *Flores Tiliæ* are Flowers of a very singular Structure; they consist of several small Petals, placed in a circular Form in a Cup, consisting of a single Leaf, divided very deeply into five Segments, and have in the Center a great Cluster of *Stamina*. Several of these Flowers hang on one common Pedicle, toward the lower Part of which there is affixed an Appendage of a foliaceous or membranaceous Substance; they are of a whitish Colour, and of an extremely fragrant Smell. This is the Form in which we see the Flowers of the Lime brought into the Shops, and they are to be used all together, Pedicle, Membrane, and all.

The Tree which produces them is one of the *Polyandria Monogynia* of *Linneus*, it is very well known to us under the Name of the common Lime Tree. The botanical Writers have distinguished it by the Names of *Tilia vulgaris*, *Tilia platyphyllos*, and *Tilia folio majore*. It grows to a very large and tall Tree; its outer Bark is of a brownish Colour, very smooth and even; and within this is another white Bark, very tough and firm, filamentous in its Structure, and easily drawn out into long Threads, of which Ropes much stronger than the ordinary yarn ones may be made. The Wood is very smooth and free from Knots, very easily cut and wrought, but not very durable. The Leaves stand on long Pedicles; they are large, of a somewhat roundish Figure, but terminating in a sharp Point; they are serrated about the Edges, and are of a strong green Colour. The Flowers already described grow in very great Quantities on the several Parts of the Tree, and afford an extremely fragrant Smell, perfuming the whole Air about the Place when they are in full Bloom. They are succeeded by Seed-Vessels of a roundish Figure, uncapitular, and containing oblong Seeds.

The Tree is found in many of our Woods, but it is hardly well proved that it is a Native of ours. The Woods in which it has hitherto been observed being near Towns or Gentlemens Seats, in which it may be very naturally supposed to have been planted at some Time or other. It thrives however perfectly well with us.

A Pound of the fresh gathered Flowers of the Lime Tree, distilled in a Retort, yield first about five Ounces of a clear and colourless Liquor, of a very fragrant Smell, and of a somewhat saline and acid Taste; after this come over between seven and eight Ounces of a Liquor clear and colourless as the former, of a more strongly acid and saline Taste, and with some little Austerity toward the last Runnings; after this comes over about half an Ounce of a brownish empyreumatic Liquor, of a mixed, acid, saline, and alkaline Taste; and after this about three Drams of a browner Liquor of a strongly alkaline Taste, but without any Thing of the acid or saline Flavour. After this there rise a few Grains of a volatile alkaline Salt in a dry Form, and after that an Oil thick and foul, and in Quantity about two Drams and a half. The Remainder in the Retort, calcined in an open Fire and lixiviated, yields about a Dram of a fixed alkaline Salt.

The Lime Tree Flowers are esteemed cephalic and cordial; they are recommended in paralytic and nervous Disorders of all Kinds. There used to be a simple Water distilled from them, kept in the Shops, but it is now disregarded, and the Flowers are only received there as an Ingredient in some of the old Compositions.

CHAPTER VI.

FLORES LILLII CONVALLII, *Lilly of the Valley.*

THE *Flores Lillii Convallii* are little white Flowers, hollow, and short; composed each of a single Petal, hollowed somewhat in Form of a Bell, and divided lightly into five or six Segments at the Mouth. They shrivel up and become brown in drying; while fresh they have an extremely fragrant Smell, but this they lose also with their Colour, and with these a great Part of their Virtues in this Preparation; so that they should always be used either fresh gathered, or preserved in Proof Spirit; but in this last Case, the Spirit must be used with them, otherwise a great Part of their Virtues will be left in it.

The Plant which produces them is one of the *Hexandria Monogynia* of *Linneus*, and of the *Herbæ bacciferae* of Mr. Ray. It is a low, but very pretty Plant; its Root is small, white, fibrous and creeping; from the several Protuberances of this there rise two or three Leaves six or eight Inches long, about an Inch and half broad, and nervous; of a beautiful green Colour, and perfectly smooth on the Surface. These are frequently all that is seen of the Plant; for unless in a proper Situation and Exposure, it will never flower. But in proper Places there rises among these Leaves a naked Stalk, about six or seven Inches high, angular, slender, and somewhat tough; the upper half of this Stalk sustains a long Series of the Flowers above described; they are placed at small Distances, and hang pendulous along one Side of the Stalk, which is generally bent a little downwards by their Weight. The *Stamina* are six in Number, and the Pistil is of a trigonal Form; when the Flowers are fallen, they are succeeded by round Berries, soft and red when ripe, full of a pulpy Matter, and in that containing some hard Seeds of a bitter

bitter Taste. It grows wild with us in many Places, but in most of them it shews only the Leaves, never flowering; in some however, where it has a proper Exposure, it spreads abundantly, and flowers, as well as in our Gardens, in many of which it is kept as a great Beauty, and one of the most fragrant Flowers known.

A Pound of the Flowers of Lilly of the Valley, fresh gathered and distilled by the Retort, yields first about five Ounces of a limpid and colourless Liquor, smelling of the Flowers, but of a mixed, alkaline, acid, and saline Taste, neither however very strongly perceptible; after this comes over a more strongly acid Liquor, still clear, and toward the last Runnings very austere, in Quantity about six Ounces and a half; after this a small Quantity, not more than three Drams, of a reddish empyreumatic Liquor, of a strange Mixture of Tastes, acid, saline, alkaline, urinous and austere, and of an empyreumatic Smell. After this comes over about the same Quantity of a reddish empyreumatic Liquor, impregnated only with a volatile alkaline Salt, about fourteen Grains of the same volatile Salt in a concreted Form, and finally near half an Ounce of a thick and fatty Oil. The Remainder in the Retort, calcined in an open Fire and lixiviated, yields about a Dram of a fixed alkaline Salt.

It is a singular Circumstance, that though these Flowers are so very fragrant, there is no distilling an essential Oil of this fragrant Kind from them; if they are not fermented they yield a Water by the common Way of Distillation but slightly scented, but if distilled after Fermentation, they afford a much more fragrant one. They also give a very fragrant Scent to Spirit of Wine, and it is a Wonder such a Spirit is not more frequently distilled from them. Though they lose much of their cephalic Virtue by drying, they are, when reduced to Powder, a very sharp Sternutatory, and draw down a great deal of Water by the Nose.

It is evident from the Analysis by the Retort, that they contain an Oil, and that in no small Quantity; but it is not this Oil, but a lighter, thinner, and more volatile one that contains the Scent of the Flower. This flies off, and is lost in Distillation with Water, but it readily unites itself with Spirit of Wine, and is drawn over with it, and may also in some Degree be preserved by the Assistance of Fermentation; by which Means it is in part at least joined with the coarser Oil, and so entangled by it, as to be preserved from flying off. The Liquor produced by this Distillation being also of a spirituous Kind is much properer to retain it than mere Water.

Lilly of the Valley Flowers are esteemed cephalic and nervine; they are recommended against Convulsions, Vertigoes, Apoplexies, Palsies, and all Disorders of the Head and Nerves. They are preserved by some with Sugar in Form of a Conserve, and by others are made into a Syrup by means of a strong Infusion; but neither of these Ways is so good as the distilling a rectified Spirit from them in a *Balneum Vaporis*, and repeating this with fresh Flowers three or four Times: The Spirit will then be fully sated with their fine essential Oil, very fragrant, and possessed of all their Virtue. Some People make their Essence of Ambergrease with this Spirit of Lillies of the Valley instead of plain Spirit of Wine. It is vastly the more fragrant for this, and is esteemed a very great Cordial, and Provocative to Venery. None of these Forms however are in the Shops, the Flowers are only known there as Ingredients in two or three Compositions.

CHAPTER VII.

CARYOPHYLLI FLORES,
Clove July Flowers.

THE officinal Clove July Flower is a large and elegant Flower; it is composed of a number of Petals of a dark purple Colour, narrow at the Base, and growing broader all the way to the Top, where they are notched along the Edge. They are disposed in a circular Form, and have among them white Stamina and a Pistil divided into two or three Filaments at the End. They smell extremely fragrant and very like the Clove Spice, whence they have their Name. The purple Petals of this Flower, are all that is intended to be used in the Shops, but the Stamina and Pistil are generally used with them, few taking the Pains of separating them. The Plant which produces them is one of the *Decandria Monogynia* of *Linnæus*, and is the common Clove July Flowers of our Gardens; a Plant of the Pink or Carnation Kind, and distinguished by Authors by the Name of *Caryophyllus purpureus*, and *Caryophyllus altissimus major*. It grows to about two Feet in Height, the Stalks are round, smooth, jointed in several Places, and of a blue green Colour. The Leaves are narrow and grassy, of a blue green Colour like the Stalks, they are placed in Pairs one opposite the other, and terminate in sharp Points. The Flowers grow on the Summit of the main Stalk and of all the Branches, and are enclosed at Bottom in a long cylindric Cup, of a membranous Texture and pale green Colour, squamous at the Base and dentated at the Top. The Fruit is a cylindric Capsule, which opens at Top when the Seeds are ripe; the Seeds are small, flat, and as it were foliaceous; they are rough and affix'd to a kind of Placenta, and when ripe are black.

A Pound of the Flowers separated from the Husks and distill'd in a Retort, yields first about two Ounces of a limpid and colourless Liquor, smelling strongly and agreeably of the Flower, and very like the Clove Spice, but of a faintly acid Taste: After this there comes over a Liquor still clear and colourless, but somewhat Empyreumatic toward the last Runnings; this is in Quantity near ten Ounces, and is at the first Running still scented, but more manifestly acid than before, and toward the last very strongly acid and austere: After this comes a small Quantity, hardly half an Ounce, of a brown empyreumatic Liquor, impregnated with a volatile urinous Salt; and finally a thick Oil like an Extract, in Quantity about half an Ounce. The remaining Matter in the Retort, calcined in an open Fire and lixiviated, yields a Dram of a fixed alkaline Salt.

These Flowers have great Commendations given them by the medical Writers as Cordials. They are recommended in all the Disorders of the Head, in Palpitations of the Heart, and in nervous Complaints of whatever Kind: They have been also much praised in malignant and pestilential Fevers. *Simon Paulli* tells us, with an Air of great Certainty and Assurance, that he had cur'd great numbers of People of malignant and pestilential Fevers, by no other Medicine but a strong Infusion of these Flowers in Water, which he tells us is a powerful Sudorific and Diuretic, and that it at the same Time comforts the

the Patient instead of weakening him. There used to be a distill'd Water of these Flowers kept in the Shops, but it has been found to possess very little of the Virtue it was once supposed to have, and has accordingly been rejected: The only Preparation now in Use is the Syrup made from a strong Infusion of the Flowers in Water; this is a very fragrant, well tasted, and high colour'd Syrup, and is much used for the sweetening Juleps, and other of the common liquid Forms of Medicines, but is not depended much upon as a Medicine itself. A Conserve is made by some of the Flowers, and is a very pleasant one and keeps well. It serves excellently to bring the Cordial Electuaries into Form, but it is not universally in Use. Some also macerate the Flowers in clear and strong Vinegar, they give this Liquor a high Colour, a fine Flavour, and very fragrant Smell; this is call'd *Acetum Caryophyllatum*. It is esteem'd excellent against pestilential Contagion. People are advised to take a Spoonful or two of it before going into a suspected Place, and always to carry in Times of Infection a Handkerchief wetted with it in their Pockets, that it may be ready to be smelt to on Occasion; but in this Case it is but Justice to observe, that the Vinegar may have a greater Share in the good Effect than the Cloves.

CHAPTER VIII.

FLORES BORAGINIS,
Borage Flowers.

BORAGE FLOWERS are of a fine strong blue Colour; sometimes, though rarely, of a pale red, and sometimes white; such as are of these Colours are less esteem'd by many for medicinal Purposes, but the Difference is trivial and not worth regarding. Each Flower is composed of a single Petal divided into five large Segments, terminating in sharp Points. They are, while growing, of the Breadth of a Shilling or more, but they shrink almost to nothing in drying. It is this blue Petal alone, separated from the Cup, and from the Stamina and other Parts of the Frustrification which occupy its Centre, that we are to use in Medicine.

The Plant which produces it is one of the *Pentandria Monogynia* of *Linnaeus*, and one of the *Herbæ Asperifoliæ* of *Mr. Ray*. It is known very well among our Gardeners by the Name of Borage, and is the *Borago Floribus Cæruleis* of *J. Bauhine* and *Tournafort*, the *Buglossium latifolium Borago flore Cærulea* of *C. Bauhine*, and the *Borago Vulgeris* of others. Its Root is white, and of the Thickness of a Man's Finger, it has several Fibres growing from it, and has a viscous Juice in it, which readily manifests itself on chewing it; from this there rise first a number of large and broad Leaves, of a dark green Colour, rough and cover'd with a Kind of weak Spines; among these rises a Stalk rough and hollow, and of the Height of two Feet or more, on which are placed, in an alternate Order, several Leaves like those which rise immediately from the Root, only that they are something narrower. The Flowers grow on the Extremities of several Branches, into which the Stalk divides itself near the Top; they have Pedicels of an Inch or more in Length, and so weak and slender that they bend them so as to hang downwards: In the Middle of the Flower there stands a

kind

kind of Umbo terminating in a sharp Point, form'd of five Apices of a blackish Colour, joining at the Top in a sort of Point, and in the whole forming a Body of a pyramidal Figure, and each ornamented with a long purple Filament. The Cup of the Flower is of a greenish grey Colour, and hoary, very rough to the Touch, and divided into five large Segments. The Pistil rises from the Base of this, and gives rise at its Base to four Seeds which are rough and blackish, broad at the Base, and terminate in a Point, and which fanciful People have supposed to represent the Head of a Viper.

The Cup remains after the Flower is fallen, and serves as a Capsule for these to ripen in. The whole Plant is full of a viscous Juice of an insipid Taste. It grows wild with us in many Places, and is almost universally cultivated in our Gardens.

On a chymical Analysis it yields first a very large Portion of a Liquor limpid and colourless at first, but afterwards turbid and milky; this is of a very singular Taste, lixivious and saline: After this comes another Liquor, a third Part of the former in Quantity, limpid and colourless at the first, but brown and empyreumatic toward the last Runnings; this has at first the same odd lixivious Taste with the former, but in a more remiss Degree, and toward the last Runnings manifests an acid Taste: After this there rises a very small Quantity of a brown Liquor, impregnated with a volatile alkaline Salt; and finally a small Portion of a thick Oil, about a Dram from the Pound, with a few Grains of a volatile Salt in a concreted Form. The Remainder in the Retort, calcin'd and lixivated, yields about a Dram from every Pound of a fix'd alkaline Salt.

It is remarkable of this Plant that after drying, if it be thrown on the Fire, it emits a sort of Coruscations, with a slight Detonation in the burning, which give evident Proof that there is a Salt of the nitrous Kind in it.

The Borage Flowers have always been esteem'd Cordial, they are said to inspire Chearfulness, and prevent Faintings. There have not been wanting many who have carried this Encomium so far, as to talk of their curing pestilential Fevers, and the Bites of venomous Animals, but this is idle. They are generally esteem'd good in Pleurifies, Peripneumonies, and all inflammatory Disorders; and indeed so many things are said of them by some Authors, which contradict the general Opinion of their Cordial Virtues, that it is not easy to suppose all true. On the whole, they are plainly enough of the number of those Medicines which the present Practice very worthily lets sink into Oblivion.

CHAPTER IX.

FLORES BUGLOSSI,
Bugloss Flowers.

THESE are small Flowers of a fine blue Colour, sometimes with a tendency to the purple, and in some Degree resembling those of Borage. They are each form'd of a single Petal or Leaf, deeply divided into five Segments, which are short and rounded at the Extremities, not pointed as those of the Borage Flowers. They are much smaller than those of Borage while growing, and like them usually shrink up very much in drying, and become extremely

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tremely light. It is this Part of the Flower alone which is to be used in Medicine; without the Cup or the internal Parts, serving to the Fructification.

The Plant which produces it is one of the *Pentandria Monogynia* of *Linnaeus*, and one of the *Herbæ Asperifoliæ* of Mr. *Ray*. It is well known to our Gardiners under the Name of Bugloss, and is the *Buglossum angustifolium majus flore Cæruleo* of *C. Baubine*, the *Buglossum vulgare majus* of *J. Baubine*. *Fuchsius* calls it *Cirsium Italicum* and *Anguillara Lycopsis*, both Names to be avoided as they belong to other Plants, and may lead into a great deal of Confusion.

The Root of Bugloss is considerably long, and often half an Inch thick, reddish or blackish on the outside and white within; it is perennial, and is full of a tough mucilaginous Juice. The Leaves that rise from this are long and somewhat narrow, and among them rise the Stalks, which grow to three Feet or more in Height, and are round, yellow, and cover'd with a rough hairy Matter: These divide into numerous Branches toward the Top. The Leaves are placed alternately on them, they have no Pedicles but adhere to the Stalks by the Base, and are oblong, narrow, not serrated at the Edges, of a dull green Colour and hairy, but not rough to the Touch in the manner of those of Borage. The Cup of the Flower is composed of five oblong and pointed Segments; in the Middle of the Flower already described, there stands an Umbo which is obtuse, not sharp pointed as in the Borage Flower, hairy and composed of five Stamina. The Pistil has at its Base four Embryos, which when the Flower is fallen ripen into as many black Seeds, large at the Base and pointed Sideways. The Cup remains on the Plant when the Flower is fallen, and serves as a Receptacle for them, swelling out considerably to that Purpose. The Tops of the Branches where the Flowers are, and their Cups also before the Flowers open, are of a purplish Colour, and are turn'd round in the manner of those of the little Houseleek, and of several other Plants.

A Pound of fresh gather'd Bugloss, distill'd in a Retort, yields first between eight and nine Ounces of a limpid Phlegm, of an herbaceous Smell and of a somewhat alkaline Taste. After this come over about five Ounces of another Liquor limpid and colourless, and of a mix'd acid and lixivious Taste, but neither very strong: After this about six Drams of a Liquor still colourless and of a saline Taste, with the same Mixture of Acid and Alkali with it as in the former: After this a very small Quantity of a brown empyreumatic Liquor, not more than a Dram and half, highly impregnated with a volatile alkaline Salt; and finally about a Dram and half of a thick Oil, with ten or twelve Grains of a volatile Salt in a concreted Form. The Remainder in the Retort, calcin'd in an open Fire and lixivated, yields near four Scruples of a fix'd alkaline Salt.

Bugloss is nearly ally'd to Borage in its Nature and Qualities. The dry'd Plant, thrown on a clear Fire, gives Marks of a nitrous Salt in the same manner as Borage does. The Flowers are esteem'd greatly cordial: They are prescribed by Authors, sometimes in Form of Conserve, sometimes in Infusion, and have much the same Effects attributed to them as are recorded of the other, but at present they are treated with the same Neglect.

CHAPTER X.

CROCUS,
Saffron.

SAFFRON is not the entire Flower of the Plant which produces it, but only some of its internal Parts. It is met with in the Shops in flat and thin Cakes, into which it has been formed by pressing while under the Hands of the Curers of it. These Cakes are composed of a Multitude of long and narrow Filaments, which are smallest in their lower Part, and are there of a pale yellow Colour; in their upper Part they are broader and indented at their Edges, and of a very strong and deep Orange Colour approaching to redness. They are somewhat tough, moderately heavy, very easily cut, and of a very peculiar Smell, not unpleasant, but acrid and penetrating, somewhat affecting the Head, and of a bitterish and hot, but highly cordial Taste. Thrown into Water they almost instantaneously give it a strong yellow or reddish Colour, according to the Quantity used. These Filaments are the cristated Capillaments into which the Pistil of the Flower divides at its Head; they are of a deep reddish Orange Colour while growing, and there are only three of them in each Flower.

Saffron is to be chosen fresh, tough, and flexible, difficultly broken, of a strong Smell, and very bitter Taste, and such as stains the Hands in touching it. Our Druggists are apt to keep it in Cellars and other damp Places in order to encrease its Weight, and by this Means it often contracts a Smell of Mouldiness, in which Case it is to be rejected.

The Plant which produces it is one of the *Triandria Monogynia* of *Linnaeus*, and one of the *Herbæ bulbosa radice præditæ* of Mr. Ray. Its Root is roundish and of the Bigness of a large Nutmeg or larger; it is double a smaller, always standing upon a larger; the lower has a Multitude of Fibres growing from its Base, and both are usually cover'd with some dry reddish Filaments or Membranes. Four or five Leaves arise from the Root, they are of a dark green Colour, narrow and grassy, and of about five or six Inches long; from the same Root rises a Stalk of three or four Inches high, which sustains a single Flower in Shape and Size, resembling the common Crocus's of our Gardens. This is whitish at the Base, but in the other Sorts of a blueish purple Colour. From its Base there arise three *Stamina* with yellow Apices, and in the Center of these a whitish Pistil, which at its Top divides into three cristated fleshy Capillaments of an Orange red Colour; these are the Part that is called Saffron. The Fruit which succeeds this Flower is oblong and trigonal, and divided into three Cells; the Seeds areroundish.

Saffron is cultivated in Fields for Use, and is no where raised with so much Success as in *England*, the *English* Saffron being allowed by all the World, except the *French* Writers on these Subjects, to be greatly superior to any other. The Plants may be raised from Seeds, but this is a tedious way, the usual Method of propagating it is by the Bulbs, of which it annually produces new ones. These are planted out in Trenches at five Inches distance or less, and seldom fail. They produce only Leaves the first Year, but in the Month of *September* or *October* of the Year following they flower. The Flowers remain a Day or

two after they open; after these are gone the Leaves appear, and remain green the whole Winter, but in the ensuing Spring they perish, and nothing is seen of the Plant during the whole Summer. The Saffron is gather'd as soon as the Flowers open, and is then carefully separated from all Foulness, and formed into the Cakes in which we see it, by a very careful Pressure and gentle Heat. The very Papers that are wrapp'd about these Cakes in the preparing, imbibe so much of the Colour and Virtues of the Saffron, that they are bought up by Distillers to serve instead of the Saffron itself, in their Usquebaugh and other coloured Waters; and some of our modern Race of Chemists make Syrup and Tincture of Saffron from them, and prepare an Extract also from them which they sell to People of no better Principle than themselves, for the occasional making of these Tinctures and Syrups.

The Root of the Saffron, when the Plant is in Flower, consists only of a single Bulb, but in the ensuing Winter it acquires the Addition of another Root like itself, and becomes double, the one Bulb lying upon the other; the upper is at first smaller than the lower, but it by Degrees grows to the same Bigness, and in the succeeding Year the lower Bulb by Degrees grows flaccid, and about Autumn wholly decays, and leaves the new one single, for the flowering Season; after which it is in its turn headed by a new one, which at length takes its Place, as it did that of the former.

At the End of *October*, when the flowering Season is over, the Bulbs of Saffron are taken up out of the Ground, and hung up in a dry Place, and in Spring they are put into the Ground again, to be of Use in the following Season.

Saffron, distill'd in a Retort, yields a small Quantity of a fine volatile acrid Spirit; this is the first thing that comes over in the Distillation, and after this there rises a subacid Phlegm, then a small Quantity of an essential Oil, with a Mixture of a volatile urinous Salt; and by Lixiviation there may be a small Quantity of Salt obtain'd from the Residuum in the Retort; this is purely alkaline. A Tincture may be extracted from Saffron equally well by Means of Water and of Spirit of Wine.

Saffron is in many Places in great Esteem in Sauces, and on many Occasions in Foods, but its great Use is in Medicine; and indeed with us this is almost its sole Use. It is a high Cordial, and a very powerful Aperient, Detergent, and Resolvent. It is of great and almost immediate Relief against Faintings, and Palpitations of the Heart; it also strengthens the Stomach and assists Digestion. It is of great Use in Disorders of the Breast arising from the Lungs being loaded with a tough Phlegm, and it softens the irritating Acrimony of a vitiated Serum on those Parts, and by this Means often is of great Use against inveterate Coughs. It is for these Reasons called *Anima Pulmonum*, the Life and Soul of the Lungs. It opens Obstructions in the Viscera, and particularly in the Liver; it cures Jaundices and promotes the Menfes. It is also anodyne, and occasionally serves as a Paregoric; it is very happily joined with *Opium* in the *Laudanum* of *Sydenham*, and in many other Preparations in which that Medicine has a principal Share.

With all these Virtues however, all these Powers of doing good, Saffron improperly administer'd may do great Harm: Women with Child and those who have Profluvia of the Menfes are never to meddle with it. It has an inebriating Faculty, and when taken in immoderate Doses may bring on dreadful

Head-achs,

Head-achs, long Sleep, Convulsions, and even Death. The very Smell of it affects the Head greatly; its Effluvia affect the Eyes also, and give great Pain in them; and we have in *Borelli* an Account of the Servant of a Druggist, who dy'd by the Effect of a large Parcel of Saffron, which lay near the Bed in which he lay. Convulsive Laughter is no uncommon Effect of an immoderate Dose of Saffron, and there are not wanting Instances of People who have dy'd in that State: The very external Use of Saffron is to be dreaded also on some Occasions; the oxyeroceum Plaister, of which it is an Ingredient, must by no Means be apply'd in Cases where Inflammation is fear'd, for it often occasions one.

The common Dose of Saffron in Substance with us is from five Grains to ten, but we are told of much greater Quantities being given by many People.

Rhases talks of two Drams of it as a Dose given in his time with Safety, and *Et Müller* tells us that the People of some Parts of *Poland* use an Ounce of it at a time in a moderate Dish of Meat; but we are to remember that there are two Considerations of Force here: The one, that the Saffron of different Countries is of very different Virtue: The other, that Use will accustom People to bear Doses of many things that would be fatal to others unaccustomed to them. We see daily Instances of this in the drinking of spirituous Liquors among ourselves, and in the Use of *Opium* among the *Turks*.

The Preparations of Saffron in Use in our Shops are, 1. The Tincture. 2. The Syrup.

TINCTURA CROCI SIVE VINUM CROCATUM,

Tincture of Saffron, or Saffron Wine.

Take fine Saffron an Ounce, cut it small, and pour on it in a Matrafs a Pint of Proof Spirit; let them stand together three Days without Heat, often shaking the Vessel, then filter off the Tincture for Use. Its Dose is from thirty Drops to a Dram or more; it is good in all Cases where the Saffron in Substance is. If the same Quantity of Wine be used instead of Spirit, it is called *Vinum Crocatum*, Saffron Wine.

SYRUPUS CROCI,

Syrup of Saffron.

Take Saffron an Ounce, cut it small, and put in Infusion into a Pint of Mountain Wine; let it stand three Days without Heat, then strain off the Wine; filter it to render it perfectly clear, and then add to it of double refined Sugar twenty five Ounces: melt the Sugar over a very gentle Heat, and then set it by for Use; a double Quantity of Sugar to that of the Liquor, is the usual Proportion in the making of Syrups; and where the Tincture of the Vegetable is made in Water it is very proper, but Wine will not take up this Quantity.

C H A P T E R XI.

BALAUSTIÆ,

Balaustines.

THE *Balaustines* of the Shops are dry'd Flowers, large, and of a beautiful purple Colour; we meet with them of the Breadth of an Inch and half or more, and of the Depth of an Inch; they are composed of a Number of

of large and thin Leaves ruffled and folded in the drying, and somewhat resemble a dry'd red Rose; they stand in a hard and firm Cup, of a dusky or brownish green Colour; they are very light and easily crumbled to Powder; they have scarce any Smell, but are of a very rough, austere, and astringent Taste. They are to be chosen large, fair, and of a deep red Colour, firm, and adhering to the Cup. Our Druggists have a way of selling more of the Cups than the Flowers, but the Buyer is to observe that the Leaves of the Flower are the only Part in which the Virtue of the Drug lies, and that they ought to be separated from the Husks or Cups before they are used; this will caution him against buying what are almost entirely Husks.

The Balauftines are the double Flowers of the wild Pomgranate. The Tree which produces them is the *Malus punica pleniflora*, or *Malus punica sylvestris major* of the botanical Writers, and is one of the *Icosandria Monogynia* of *Linnaeus*, and of the *Arbores fructu umbilicato majore* of Mr. Ray. It is a prickly Shrub; its Leaves are oblong and pointed at the Ends, and its Flowers very large and beautiful, resembling the red Rose, but of a much brighter and more florid Colour. It grows very plentifully in the hot Countries, where its Flowers are gather'd and dry'd for Use. They are a very powerful Astringent, and are given with Success in Diarrhoeas, Dysenteries, and Profluvia of the Menfes, and in all Cases where Astringents are proper.

CHAPTER XII.

FLORES ROSARUM, Roses.

THE Roses used in Medicine are of two Kinds, the Red, and the Damask.

THE RED ROSE is expected to be gather'd before perfectly expanded, as possessing its Virtues more eminently while in the Bud than at any other time. They are brought to the Shops when of the Size of a large Nutmeg, and of a Sort of conic Figure, large at the Base where they are received into the Cup, and terminating in a Point, and are hard, firm, and form'd of a Number of Petals, closely wrapp'd and folded one over another of a deep purple Colour, and but little Smell. They are to be separated from these Husks to fit them for Use, and the white Heels or *Ungulae* at the Base, by which they adher'd to the Cup, are to be cut off, and the *Apices* and *Stamina* and other Parts of the Fructification left behind, it being only the yet unopen'd Petals of this Kind of Rose that are to be used in Medicine. When thus separated they are juicy and very heavy while fresh, and easily beat up into a Conserve with Sugar; when dry'd they become crisp, brittle, and light, and retain their deep purple Colour very fair, if the Operation have been carefully performed. The Apothecaries have a way of drying the white Ends they cut off from the Petals, in order to use them under the Name of dry'd Red Roses, but it is a bad Practice.

THE DAMASK ROSE is not to be gather'd in the Bud, but when just blown before the Petals become loose and begin to fall, and while they are of a fine pale red, for they afterwards become almost white. This is the Period at which their Scent is the most fragrant, and all their Virtues in the greatest Perfection.

fection. They are to be separated like the red Rose from the Cups, and from the *Stamina*, and either distilled or dried in this clean and pure State. It is a common Error to throw them into the Alembic as they are brought from Market, with the Cups and Pieces of the Pedicles with them ; but these Parts give a Smell to the Water very different from the fragrant Scent it has from the Petals of the Flower.

The Shrubs which produce these two Kinds of Roses, so different in their Colour as well as in their Virtues, differ however very little from one another. They are of the Number of the *Icosandria Pentagynia* of *Linnæus*, and of the *Frutices Fructu umbilicato minore* of *Ray*. They grow to four or five Feet in Height ; the Stem is but small and infirm, covered with a brownish Bark in the lower Parts, and a greenish higher up, and beset with sharp Prickles. The Leaves are of the pinnated Kind, and are composed each of several smaller, which are oblong, broad, serrated about the Edges, and pointed at the Ends ; of a dark green Colour, and somewhat harsh and hard to the Touch. The Flowers of the Red, when fully expanded, are not so large or full as those of the Damask, nor of nearly so fragrant a Smell. They are succeeded in both Kinds by an oblong Fruit, containing a Number of hairy Seeds, and altogether resembling the Hep or Fruit of the wild or Dog Rose, to be described in its Place.

The Red Rose, distilled in the Retort, yields first an inodorous Phlegm of a faintly acid Taste, afterwards a more acid, and toward the last Runnings a somewhat austere Phlegm ; after this a brown empyreumatic Liquor impregnated with a volatile Salt, and finally a thick dark coloured Oil. The Damask Rose analysed in the same Manner yields much the same Principles ; but the first Phlegm is fragrant, the brown Liquor with the volatile alkaline Salt more in Quantity and stronger, and the Oil less in Quantity, and less thick. Both yield from the Remainder of the Distillation, burnt in an open Fire and lixiviated, a moderate Quantity of fixed alkaline Salt.

The Red Rose is a powerful Astringent ; eaten crude it will stop Diarrhoeas ; in the Conserve its Virtues are debased by the Sugar ; yet it still is considerably astringent. The dried Flowers powdered are yet more so, and the Tincture drawn from them by Infusion in Water, with the Addition of a few Drops of Oil of Vitriol, is of excellent Service in many Cases where a cooling Subastringent is necessary.

The Damask Rose, though so nearly allied to the Red in Form and Nature, yet is of an exactly contrary Quality, a mild and gentle Purgative. It is used in the Shops in Form of a Syrup, made either from the Juice or Infusion of the fresh Flowers. The Apothecaries at this Time usually make it of the Remainder in the Alembic, after the Distillation of the Rose Water. A late Dispensatory Writer put it into their Heads, and declares it a very good Method ; but every Body who knows the Difference between a Decoction, and an Infusion, will be sensible how vastly preferable the Medicine will be, if made from an Infusion of the Flowers poured again and again on fresh Parcels of them, till it have imbibed as much of their Virtue as it is able to retain.

The Rose Water of the Shops is distilled from this Species, and is of a very fragrant Smell ; it has been celebrated for many Virtues, but the Smell is the only Quality now regarded in it.

CHAPTER XIII.

FLORES VIOLARUM,
Violet Flowers.

VIOLETS are small, but very beautiful Flowers; they are of a deep blue, or rich blue purple Colour, and consist each of five Petals, two placed on the upper Part of the Flower, one on each Side, and one at the Bottom, which runs out into a Spur or Tail behind. The two upper Petals make what is called by Botanists, the *Vexillum* of the Flower; the two Side Petals the *Alæ*; and the lower one the *Carina*. The whole Flower is of a peculiarly fragrant Smell, and is to be separated from the Cup for medicinal Purposes, the *Stamina* and Pistil being also rejected; the Petals only containing the Virtues which are expected to be found in this Flower.

The Plant which produces it is one of the *Syngenesia polygamia Monogamia* of *Linnaeus*, and one of the *Herbæ Flore pentapetalo* of *Ray*. It is well known among us under the Name of the common Violet. Botanical Writers have distinguished it from the other Species of that numerous Genus by the Names of *Viola Martia purpurea*, *Viola nigra*, *sive purpurea*, and *Viola Martia purpurea flore simplici odoro*. The Plant is low, the Root is small and creeping; the Leaves are large, broad, serrated round the Edges, and terminate in a blunt Point; they stand on long and slender Pedicles, which are of a pale green Colour. The Flowers stand on short Stalks three or four Inches high, one Flower on each; and they are succeeded each by a Capsule, divided into three Cells, and filled with a great Number of Seeds.

A Pound of fresh Violet Flowers, distilled in a Retort, yields first about three Ounces and a half of a limpid and colourless Water smelling of the Flowers, and of a faintly saline and subacid Taste; after this come over near eight Ounces of another Liquor still clear and colourless, but of a more strongly saline and acid Taste, and toward the last Runnings somewhat austere; after this comes a small Quantity of a brownish empyreumatic Liquor, containing the same Principles, and with them a volatile alkaline Salt very evident to the Tongue; and after this a yet brown Liquor impregnated only with a volatile alkaline Salt. The first of these is not more than six Drams in Quantity, the latter scarce half an Ounce. After this comes over a thick Oil in Quantity about a Dram and half. The Remainder, calcined and lixiviated, yields near a Dram of a fixed alkaline Salt.

Violet Flowers fresh gathered are emollient and gently purgative; they stand greatly recommended by Authors, in Fevers, Head-Achs, Pleurisies, and Peripneumonies; but at present they are only regarded as gentle Purgatives; and a Syrup of them made from a strong Infusion in Water, is the only Preparation kept in the Shops. It is given to Children as a gentle Evacuant, and it serves also very readily as a Test for the distinguishing Acids and Alkalies; the former turning it immediately red, and the latter green.

C H A P T E R XIV.

FLOS PERSICÆ,
Peach Blossom.

THE Peach Blossom is a Flower of a pale red Colour, consisting of five Petals, which are broad and rounded at their Ends, and arranged in a circular Form; and of a Multitude of oblong *Stamina* placed in the Center of these, of a pale red, or sometimes of a whitish Colour, with a Pistil of about the same Length in the Middle; they have but little Smell, but they are very beautiful to the Eye, and are to be gathered entire with the *Stamina*, but without the Cups, for medicinal Use.

The Tree which produces them is one of the *Icosandria Monogynia* of *Linnaeus*, and one of the *Arbores Pruniferae* of *Ray*. It is the common Peach Tree of our Gardens, the *Malus Persica* of *J. Baubine*, the *Malus Persica molli Carne et vulgaris Viridis et alba* of *C. Baubine*. It grows to fifteen or twenty Feet high when properly supported; its Wood is but brittle; the Bark of a reddish brown, and tolerably smooth; the Leaves are oblong, serrated at the Edges, and pointed at the Ends very like those of the Almond Tree, but larger and of a bitter Taste, like that of the Kernel of the Fruit, but less agreeable. The Flowers already described appear before the Leaves, and are set in a reddish Cup divided into five Segments. The Fruit which succeeds these is the common Peach. The Tree, on being wounded, yields a Gum liquid at first, but hardening afterwards, and much resembling the Gum Arabick of the Shops in Taste, and in all its Qualities, except that it is a little darker. The Plum, Cherry, and Almond Tree, and in general all those which have a stony Coat over their Kernel, yield the same Sort of Gum, on being accidentally or purposely wounded, or on the naturally cracking of their own Bark.

A Pound of Peach Blossoms, distilled in a Retort, yield first between eleven and twelve Ounces of a clear and colourless Water, of a somewhat pungent Smell and bitterish Taste, like that of the Kernels of the Stone bruised, and with a somewhat latent Acidity. After this comes over a little more than an Ounce of a Liquor without any thing of this Bitterness, but manifestly acid; after this about half that Quantity of a reddish and empyreumatic Liquor, of an acid and somewhat saline Taste, and about the same Quantity of a brown and more empyreumatic Liquor, sated with a volatile alkaline Salt; then about twelve Grains of the same volatile Salt in a concreted Form, and finally a little more than half an Ounce of an Oil of a thick Consistence. The remaining Matter in the Retort, calcined in an open Fire and lixiviated, yields near two Scruples of a fixed alkaline Salt.

The Flowers as well as the Leaves of the Peach Tree are of a bitter and disagreeable Taste; they are purgative, and when given to Children they usually prove emetic also.

They will indeed vomit any Body ever so strong, if taken in too large a Dose; and at best they purge in a troublesome Manner with much Griping. They may be given in Form of a Conserve; or the expressed Juice may be taken half an Ounce or an Ounce for a Dose: But for Children the best Form

is the Syrup, which in small Doses seldom fails to purge them, and in a little larger to vomit. The Bitterness of these Flowers makes them a good Medicine against Worms; indeed with the Addition of a few Grains of Calomel, there is scarce a better.

CHAPTER XV.

FLORES CHAMÆMELI,
Camomil Flowers.

THE *Flores Chamæmeli*, which we usually meet with in the Shops, are small white Flowers of what is called the double Kind; that is, consisting wholly of Petals without any Appearance of *Stamina* or Pistil, or the other Parts of Fructification, which in the single Flowers shew themselves in the Middle in Form of yellow Threads; and these are about the Size of a double Daisy, they are very light, of a faintish Smell, and of a bitter, but not disagreeable Taste.

Though these are the common Flowers of Camomil met with in the Shops, they are not however the best, or those that ought to be kept there. The single Flowers, or those which consist of only a single Series of Leaves or Petals in Form of Rays, surrounding a Cluster of yellow Threads or *Stamina*, have much more Virtue. It is indeed in these *Stamina* and their *Apices*, that a great Part of the Virtue of the Flower resides, and these are wanting in the double or full Flowers.

The Plant which produces the single and the double Flowers is of the same Species, and only produces the one or the other as left to Nature, or as altered by Culture. It is one of the *Syngenesia Polygamia superflua* of *Linnaeus*, and one of the *Herbæ Flore corymboso* or *corymbiferæ* of Mr. Ray. It is described by all the botanical Writers under the Name of *Chamæmelum odoratum*, and *Chamæmelum repens Flore simplici*, as they speak of it in its natural State. It grows to four or five Inches high in its wild State, but in Gardens it is considerably larger; its Leaves are of a strong green, and finely divided, and its Flowers naturally composed of a yellow Umbo, surrounded by a Rim of white Petals; but when the Flower is double, it consists wholly of these Petals. It is cultivated in Gardens in the Neighbourhood of *London*, where the Flowers are gathered and carefully dried for Use.

Camomil Flowers, on a chemical Analysis, yield a small Portion of a saline Liquor, which manifests by Experiments an Acid in it; and after this a small Portion also of an urinous Phlegm, and an Oil of two Kinds, partly thin and pellucid, partly thick and opaque; the former in very small Quantity, the latter in considerably larger; a small Quantity of a volatile Salt in a dry Form is also found in the Neck of the Retort. They are carminative and stomachic; they are given internally in Flatus's, Indigestions, and Decay of Appetite. The double Flowers are much less censurable when given in the Place of the other as Stomachics, than when the carminative Virtues are expected from them. They are used externally also in Cataplasms, and Fomentations, and are an almost universal Ingredient in Clysters.

CHAPTER XVI.

FLORES SAMBUCI,
Elder Flowers.

THE *Flores Sambuci* are small white Flowers, growing in a Sort of umbelliform Clusters, and usually brought to the Shops on their Stalks, and distilled together with them. It would be much better however to separate the Flowers and reject the Stalks as of no Value, and communicating a Smell different from that of the Flowers themselves, and vastly more disagreeable. The single Flower separated from the Cluster is composed of one Petal, expanded into a circular Form, and divided into several Segments at the Edge, of a clean white Colour, and of a very singular Smell, by some thought very disagreeable, by others pleasant.

The Tree which produces these Flowers is one of the *Pentandria trigynia* of *Linneus*, and one of the *Arbores bacciferae* of *Ray*. It is sufficiently known among us by the Name of the common Elder, and is described by all the botanical Writers under that of *Sambucus vulgaris*, *Sambucus fructu in Umbella nigro*. It grows to eight, ten, or more Feet in Height; its Trunk is very firm and strong, covered with a whitish brown Bark, very rugged; the Wood is white and of a close Texture, and the Cavity within it very small, and containing a light, fungous, and very white Pith. The younger Branches are greenish, and are mere cylindric Crufts or Cases of a woody Texture, containing a vast Quantity of the same spongy Pith that is in the Cavities of the larger Stems, filling up a Hollow in them almost equal to their whole Diameter. The Leaves are pinnated, or composed of several smaller ones, which are oblong, pointed at the End, serrated about the Edges, smooth and of a deep green Colour, and very offensive Smell when bruised. The Flowers already described grow in round Tufts of six or eight Inches in Diameter, and are supported by green succulent Branches, divided into numerous lesser Pedicles; they are succeeded by Berries, green and hard at first, but black and soft, and full of Juice when ripe.

A Pound of fresh Elder Flowers, distilled in a Retort, yields first about five Ounces of a limpid and colourless Liquor, smelling strongly of them, and of an obscurely saline and subacid Taste: after this come over between six and seven Ounces of a Liquor still colourless and pellucid, and at first of a more strongly acid and saline Taste, but in the last Runnings austere; after this about six Drams of a brown empyreumatic Liquor, having some acid, some saline, and some austere Flavour; and with these a pungent volatile alkaline Salt; then about two Drams of a browner Liquor, impregnated with a volatile alkaline Salt alone; and finally about three Drams of a black Oil. The Remainder taken out of the Retort, and calcined in an open Fire till it has done sparkling when stirred, lixiviated after this, and the filtrated *Lixivium* evaporated, yields two Scruples of a fixed alkaline Salt.

Elder Flowers are esteemed sudorific, anodyne, and emollient; they are sometimes prescribed in form of a slight Infusion, made in the manner of Tea for these Purposes; but more frequently they are used externally in emollient Cataplasms,

emplafms and Fomentations; a fimple Water diftill'd from them in the common way is ufually kept in the Shops, and is by fome efteemed a fudorific and alexipharmic; but the principal Confumption of it is among the Ladies, who ufe it to wafh their Faces, under an Opinion that it cleanses the Skin, and keeps it free from Pimples. The other Parts of the Elder alfo have their Ufe in Medicine; the Bark of the younger Branches is a powerful, but withal a rough Purge; the Juice of the young Leaves has the fame Virtue, but is a far more difagreeable Medicine; the Country People however fometimes ufe both in Dropfies. The Juice of the Berries is alfo efteemed fudorific and alexipharmic, and a very pleasant Wine is often made of it by Fermentation; what we have under the common Name of Elder Wine, however, is not this pure fermented Juice, but is ufually a Raifin Wine, only colour'd with a Quantity of the Juice of the Elder Berries.

The Juice alone infpiffated over the Fire, makes the Rob of Elder a Medicine much efteemed in Diforders of the Breaf.

C H A P T E R XVII.

FLORES PARALYSIS,
Cowflip Flowers.

THE *Flores Paralysis* are fmall, oblong, yellow Flowers, confifting each of a fingle Petal, formed into a fender Tube of the Thicknefs of a wheaten Straw, and of a third of an Inch or more in Length, growing wider as it approaches the Top where it expands into a flat or fomewhat hollowifh Form, and is divided into five broad Segments, each of which is indented in the middle, fo as to represent the Picture of a Heart. Thefe are to be pull'd out of the Hufk in order to be ufed in Medicine, and the lower End cut off.

The Plant which produces them is one of the *Pentandria Monogynia* of *Linnaeus*, and one of the *Herbæ fructu ficco fingulari flore monopetalo* of *Ray*. It is very well known among us under the Name of the common Field Cowflip, and is diftinguifh'd by the botanical Writers under that of *Primula veris major*, *Primula veris odorata flore luteo fimplici*, and *Verbafculum pratense odoratum*. Its Root is fibrous and whitifh, its Leaves oblong and fomewhat rough, of a full green Colour, and broadest near the middle, terminating in an obtufe Point. A great Cluster of thefe ufually arife from every Root, and among them a Stalk of fix or eight Inches high, round, moderately thick, hollow, of a pale green Colour and hairy. On the top of this ftand fix, eight, or more of the Flowers juft defcribed; they are furrounded almoft to the Top with a green Cup or Hufk which is highly ridged. The Flowers have a very agreeable Smell, which however it is hard to retain in any diftill'd Liquor.

A Pound of Cowflip Flowers pick'd from the Hufks and diftill'd in a Retort, yield firft between four and five Ounces of a clear and colourlefs Phlegm, fmelling flightly of the Flowers, and of a faintly acid and faline Tafte; after this there come over about feven Ounces of a Liquor ftill clear, but more and more ftrongly acid, and toward the laft Runnings auftere; after this comes over a Liquor of a brownifh Colour and empyreumatic Smell, about half an Ounce in Quantity, containing an alkaline volatile Salt, and yet tafing confiderably auftere

austere and acid, and after this about a Dram and half of another brown Liquor, containing a volatile alkaline Salt alone ; finally about three Drams of a coarse and thick Oil. The Remainder in the Retort, calcined in an open Fire and lixiviated, yields about two Scruples of a fix'd alkaline Salt.

Cowslip Flowers have been esteemed greatly cephalic and nervine ; they are recommended in Palsies, Apoplexies, and all nervous Disorders ; and Waters, Syrups and Conerves used to be made of them and kept in the Shops ; at present they are almost all disused, the distill'd Water very worthily, as containing nothing of the Virtues of the Flowers ; but the Conserve and Syrup were both very pleasant Medicines, very gently narcotic, and tho' not of Consequence enough to be trusted solely in the Cure of such terrible Diseases as their Virtues are celebrated by Authors in, yet they served very conveniently to reduce other Medicines of more Consequence in the same Intention into Form.

C H A P T E R XVIII.

FLORES HYPERICI, *Saint John's Wort Flowers.*

THE *Flores Hyperici* are small Flowers of a bright and beautiful yellow Colour, and are composed each of five Petals, which are of an oblong Form, broadest in the middle and narrow both at the Base, and toward the opposite Extremity, where they terminate in a Point. In the midst of these Petals there rises a great Cluster of *Stamina* of a yellow Colour crown'd also with yellow Apices ; the whole Flowers with these *Stamina*, and the Pistil, ought to be used in Medicine carefully separated from their Cups.

The Plant which produces them is one of the *Polyadelphia Icosandria* of *Linneus*, and one of the *Herbæ pentapetalæ vasculiferæ* of Mr. Ray. It is the common Saint John's Wort, distinguished from the other Species of that Genus, by the Names of *Hypericum vulgare*, and *Hypericum vulgare sive perforata caule rotundo foliis glabris*. Others have called it *Fuga Dæmonum*, and *Herba Solis*. It grows to about two Feet in Height, the Stalks are round and usually of a reddish Colour ; they are rigid and hard, but not very tough, and are divided into a Number of Branches toward the Top. The Leaves are broad and of an oblong Figure ; they stand by Pairs on the Stalks, and have no Pedicles : held up against the Light, they are observed to be full of small round Spots that admit the Light through, and have the Appearance of Holes : It is from these that the Plant has been called *millepora*, and *perforata*, but they are not in reality Holes, but little Vesicles full of an oily and very pellucid Matter ; they are bitterish and astringent to the Taste. The Flowers just described stand in Cups composed of five Leaves each, and when the Flower is fallen there succeeds a Capsule divided into three Cells, and containing a great Number of small, oblong, and blackish Seeds, of a bitterish resinous Taste, and of a Smell somewhat resembling that of common Pitch. The Flowers and the Seed Vessels of this Plant while green, on being pressed between the Fingers, afford a Juice of a Blood red Colour.

A Pound of the whole Plant fresh gather'd, and distill'd in a *Balneum Vaporis*, yields first about seven Ounces of a clear and colourless Liquor, of a Smell and
Taste

Taste somewhat like that of the Plant and not disagreeable, but with something of a latent Acidity, and with a small Admixture of the essential Oil. After this there comes over about half the Quantity of a Liquor less scented of the Plant, and of a manifestly acid and austere Taste. The remaining Matter of this Distillation put into a Retort and work'd with a stronger Heat, yields first about an Ounce and a Quarter of a reddish and empyreumatic Liquor of an austere and saline Taste, and afterwards about a Dram of a brown Liquor impregnated with a volatile alkaline Salt, and of a very bad Smell; and finally near an Ounce of an Oil partly thin, and like Oil of Turpentine, and partly thick like Honey and of a black Colour. The Remainder in the Retort, calcined in an open Fire and lixiviated, yields near half a Dram of a fix'd alkaline Salt.

It is singular in this Process, that scarce any of the common Plants yield so large a Portion of Oil, or so small a Quantity of fix'd Salt as Saint John's Wort. This Plant indeed contains a vast Quantity of a Balsamic Oil; the Seeds it has already been observed smell resinous when bruised; the Flowers have also the same Smell, and both have the plain Taste of the Balsams; the pellucid Spots in the Leaves taken to be Holes, and the Rows of black Spots on the Verge of the Petals, and the Tubercles on the Surface of the unripe Capsules, are all so many Vesicles containing this essential Oil so abundant in the Plant. The whole Plant has been esteemed a Vulnerary by some, and others have attributed this Virtue only to the Flowers: There have not been wanting People to laugh at the Dispute, imagining that neither possessed any such Quality in any very eminent Degree; but a better Acquaintance with the singular Nature of the Flowers, and even the Leaves of it would have taught them that a great deal might be expected from it.

It is esteemed a great Medicine for cleansing and healing internal, as well as external Ulcers, and has been given with Success against Spittings of Blood, and voiding Blood by Urine. It resolves coagulated Blood, promotes the Menfes and Urine, destroys Worms in the Bowels, and is recommended as of great Service in Hysterical, Hypochondriac, and even maniacal Cases. It is to its Virtues against those Disorders that it owes the Name of *Fuga Dæmonum*, People whose melancholy Imaginations have led them to fancy they were possessed by Devils, having been cured by it. The best way of giving it is in a strong Infusion of the flowery Tops of the Plant in white Wine. *Bartholine* recommends an Infusion of these Flowers in Brandy taken all together, Liquor, Flowers and all, as one of the most certain Remedies against Wounds that he had ever met with. And *Camerarius* speaks very largely in Praise of the expressed Juice of the Plant for the same Purposes.

Externally apply'd the Flowers of Saint John's Wort are second to nothing of the Vegetable World as a Vulnerary, and are particularly good in Wounds of the nervous Parts. Their resinous and balsamic Parts give them a very remarkable Power of deterging and healing; the Method of applying them is bruising and laying them immediately upon the Part, or infusing them in Wine or in Spirit; but with us the common Form is an Oil made by Insolation, the Flowers being thrown into Oil of Olives, and fresh ones added daily till the Oil is become thoroughly impregnated with their Balsam, and has acquired a fine florid red Colour.

CHAPTER XIX.

FLORES LAMII,
Dead Nettle Flowers.

THE *Flores Lamii* are moderately large Flowers of the labiated Kind, they are of a pale whitish Colour on the outside, and of a pure Snow white within, and consist, in the manner of the other Flowers of that Class, of a single Petal divided into two Parts, the upper one of which stands at a considerable Distance from the other, and is hollow'd like a Spoon within, and is hairy about the Edges; and has within it four Stamina, two longer and two shorter: The lower Lip is divided into two Segments, and represents in some Degree the Picture of a Heart at Cards. The Flower thus perfect, separated from its Cup, is what should be used in Medicine.

The Plant which produces it is one of the *Didynamia Gymnospermia* of *Linnaeus*, and one of the *Herbæ verticillatæ* of *Ray*. It is well known among us under the Name of the common white flower'd Dead Nettle, and is the *Lamium vulgare album sive archangelica flore albo* of *Tournefort*, the *Lamium album non fœtens* of *C. Baubine*, and the *Lamium album vulgare* of other Authors. It grows to a Foot or more in Height, the Stalks are large and square, hollow, somewhat hairy, and of a light green Colour; near the Earth however they are much smaller and slenderer than elsewhere, and are therefore often scarce able to support themselves. The Leaves stand in Pairs at the Joints of the Stalks: Those on the lower Part have long Pedicles, those on the upper Part shorter; they are like those of the common Nettle in Shape, but not so deeply notch'd at the Edges; they are somewhat hairy and very soft to the Touch. The Flowers grow in little Clusters in the *Axæ* of the Leaves, and stand in large striated Cups divided into five Segments, each of which terminates in a weak Spine. This Cup remains after the Flower is fallen, and becomes a sort of Capsule, including four Seeds. The whole Plant has a singular but not very disagreeable Smell.

A Pound of the Dead Nettle fresh gather'd just as it is going to flower, and distill'd by the Retort, yields first about two Ounces of a clear and colourless Phlegm of the Smell of the Plant, and of an obscurely saline Taste: After this come over about six Ounces of a Phlegm still colourless, but of a more saline, and toward the last Runnings of an acid Taste: After this another Liquor still clear, but more and more acid, and toward the last Running austere, in Quantity about four Ounces: After this comes a brownish Liquor, of a somewhat empyreumatic Smell, somewhat acid and somewhat urinous in the Taste: After this about six Drams of a Liquor still darker colour'd, and impregnated very strongly with a volatile alkaline Salt; and finally about two Drams of a black and thick Oil. The Remainder in the Retort, calcin'd and lixiviated, yields near two Drams of a fix'd alkaline Salt.

The Flowers of the *Lamium Album* have been greatly recommended against the *Pluer Albus* in Women, and against Floodings of the Menfes. It is also said to be a great Vulnerary, and to be good against Obstructions and Indurations of the Viscera. They are a Medicine well known to the good Women in the Country, who make a Conserve of them for these Purposes, or drink an Infusion of them made in the manner of Tea, which taken for some Time seldom fail of curing that troublesome Disease.

P A R T S.

PARTS of VEGETABLES

Used in MEDICINE.

CLASS the FIFTH.

FRUITS.

TH E Bodies of this Class are considerably numerous. They are arranged here in the same manner as the Plants, into two Divisions, according to their more or less frequent Use in Medicine.

Those more frequently used are described in the following Order.

- | | | |
|-----------------|----------------|----------------------|
| 1. COLOCYNTH. | 9. PIMENTA. | 17. DATES. |
| 2. TAMARIND. | 10. CARDAMOMS. | 18. FIGS. |
| 3. CASSIA. | 11. AMOMUM. | 19. RAISINS. |
| 4. CLOVE. | 12. CUBEBS. | 20. BAY BERRIES. |
| 5. NUTMEG. | 13. CHOCOLATE. | 21. JUNIPER BERRIES. |
| 6. MACE. | 14. VANILLA. | 22. MYRTLE BERRIES. |
| 7. PEPPER. | 15. COFFEE. | |
| 8. LONG PEPPER. | 16. ALMONDS. | |

The less frequently used are the following.

- | | | |
|-------------------|-----------------------|--------------------------|
| 1. STARRY ANISE. | 7. JUJUBES. | 13. St. IGNATIUS'S BEAN. |
| 2. ANACARDIUM. | 8. SEBESTENS. | 14. WINTER CHERRY. |
| 3. CASHEW NUT. | 9. MYROBOLANS. | 15. AGNUSCASTUS FRUIT. |
| 4. BEN NUT. | 10. BENGAL BEAN. | 16. CYPRES NUT. |
| 5. PISTACHIA NUT. | 11. COCCULUS INDICUS. | |
| 6. PINE KERNELS. | 12. NUX VOMICA. | |

These are all kept dry for Use in the Shops, and if to these we add a few Fruits, the pulpy or juicy Part of which is used while fresh, we have all that this Class of Vegetable Parts furnishes the *Materia Medica* with. These are

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|----------------|-----------------------|
| 1. The HEP. | 3. The MULLBERRY. |
| 2. The QUINCE. | 4. The BLACK CURRANT. |

Of F R U I T S.

CHAPTER I.

COLOCYNTHIS,
Colocynth.

COLOCYNTH, or *Coloquintida*, is a Fruit sent to us dry'd and cleansed of its outer Bark or Rind, which is yellowish and tough, and of the Thickness of a Shilling or a little more. The Colocynth, as it comes over to us when entire, is round and of the bigness of a moderate Orange, of a whitish Colour with a faint Admixture of yellow, extremely light, and of an irregularly wrinkled Surface. When broken it is found to be composed of a fungous or spongy Matter, with a great Quantity of Membranes and Films very regularly disposed in it, and dividing it into three Parts, making the Lodgments for a great number of different Arrangements of Seeds disposed in two Cells in each. It is very soft and easily pull'd to Pieces, or cut with either a Knife or Scissars, but it is not easily powder'd. It is of a disagreeable Smell, though not a very strong one, and of a very nauseous bitter Taste, with something acrid among it. The Seeds are smaller than those of Cucumbers, else not much unlike them in Figure, they are hard and somewhat compress'd. Colocynth is to be chosen dry, light and tough, of a good bright Colour and not dusty. It is too unlike all the Things we know in the World to admit of a possibility of Adulteration.

Colocynth has been known in Medicine from the earliest Times we are acquainted with. *Hippocrates* calls it *Sicyone*, and *Dioscorides* and *Galen* Colocynth. The *Arabians* make frequent mention of it under the Name of *Haanthal*, whence *Handel* and *Handal*, and thence the Name of a Compound in our Shops, of which this Fruit is the Basis, and which is call'd *Albandal*, one of the *Trochisci* of many Dispensatories. It is call'd also by some, from its extreme Bitterness, *Fel Terræ*, the Gall of the Earth. We have it from *Syria*, particularly from *Aleppo*, but it might be cultivated nearer home.

The Plant which produces it is of the number of the *Monæcia Syngenesia* of *Linnaeus*, and of the *Herbæ Pomiferæ* of Mr. Ray. It is described by all the botanical Writers under the Name of *Colocynthis*, and *Colocynthis fructu rotundo* among the Gourd and Citrul Kinds. The Stalks are weak and trail upon the Ground unless supported, the Leaves stand singly on long foot Stalks, and are divided in the manner of those of the Citrul, but more deeply and are smaller: The Flowers are large and of the Bell Shape, divided into five Segments, and of a yellowish Colour. The Fruit is green at first, and grows afterwards yellow. It is covered with a thin tough Skin, they take this off when the Fruit is ripe, and dry the pulpy Part with the Seeds in it for Use. The Seeds are not used, but they outweigh the rest of the Fruit.

By a chymical Analysis there are obtained from two Pound seven Ounces of Pulp of Colocynth, separated from the Seeds, nine Ounces, seven Drams and a
M m m half

half of a limpid, insipid and inodorous Phlegm ; this however may be prov'd to contain a little of an alkaline urinous Salt, for it turns a Solution of corrosive Sublimate white and milky : After this come over three Ounces, two Drams and a half of an empyreumatic Liquor of a reddish Colour, acid and urinous ; one Ounce, six Drams and a half of an urinous Spirit, and three Ounces, twelve Grains of an extremely acrid, foetid, and bitter Oil. The Remainder in the Retort, after these several Liquors are extracted, is a Coal, insipid to the Taste, and weighing ten Ounces, four Drams and a half ; this after well calcining in a reverberatory Furnace, will be reduced to four Ounces, two Drams and a half ; and from this may be extracted by Lixivation, near four Drams of an acrid and caustick alkaline Salt, which will precipitate a yellow Powder from a Solution of corrosive Sublimate.

Eight Ounces of Colocynth Pulp will afford three Ounces of a gummous Extract with Water, but the same Quantity with Spirit of Wine will yield barely half an Ounce of a resinous one. Spirit of Wine is not able to extract any Tincture from Colocynth that has before been macerated in Water ; but Water is able to extract a great deal of Tincture, and of Virtue, from Colocynth, that has been ever so long macerated in Spirit of Wine. Colocynth distill'd with Water in the common Way, with an Alembic, affords an insipid inodorous Liquor, not at all purging ; but Colocynth fermented and distill'd, yields a spirituous Liquor that purges strongly.

Colocynth is in a great Part soluble in Water by boiling. If a Pound of the clean Pulp of it be boil'd six or eight Hours in twelve Pints of Water, and after pressing off the Liquor, the Pulp be boil'd again for twelve Hours in the same Quantity of fresh Water ; and after this for fourteen Hours more in eight Pound of fresh Water, the finally remaining Matter will not weigh more than a quarter of a Pound, the other three fourths being taken up in the Liquors. These several Liquors mix'd together, and evaporated to half, when cold become a Jelly, but evaporated farther away they become a dry Extract, which is the best Form of giving Colocynth internally. The Dose is from four to fifteen Grains.

Colocynth is a strong and very violent Purge : All the medical Writers, from *Hippocrates* down to the latest Times, give it the Character of the most powerful known Hydragogue, and it has been prescribed in Pains in the Limbs, Headachs of the worst Kinds, Obstructions of the Viscera, and terrible cutaneous Foulnesses, as also in Dropsies with great Success ; but it is to be given with great Caution. There are not wanting among the medical Writers, some who, beside the purgative Virtue in Colocynth, ascribe an alterative one to it, and speak greatly of its Virtues in under Doses, in Epilepsies, Pains in the Loins, and Obstructions of the Menfes. Colocynth in large Doses is so violent in its Operation, that it has once or twice been like to have been voted out of the *Materia Medica* as a Poison. It often erodes the Intestines, and brings away Blood with the Stools, and sometimes does violent Injuries to the Nerves. Its Use is therefore to be attended with Caution, and if it bring on Hypercathartes and Convulsions, or if there is Reason to expect it will do so, the readiest Method of relieving the Patient is, by giving Oil in considerable Quantities, as well by the Mouth as in Clysters. Upon the whole it can only be properly given to People of robust Constitutions, and to those it ought never to be given, except where

where other Purges fail of doing the intended Service. Colocynth is scarce ever prescribed singly at this Time: It is an Ingredient in the *Pellulæ Cocciaë*, and though in a very large Proportion, yet it is never found to do any Hurt there.

Its purgative Virtue is so strong, that it is said to operate only by the Smell, or even the frequent handling of it. We find experimentally that mixed with Bullocks Gall, and applied externally to the Navel, it purges with considerable Strength, and even kills and brings away Worms from the Bowels.

C H A P T E R II.

TAMARINDUS,
Tamarind.

THE Substance called Tamarind in the Shops is a pulpy Matter, which has in its natural State, surrounded and inclosed, the Seeds of a Tree of the same Name between the two Membranes of the Pods, with which Nature has defended them externally from Injuries. It is a thick, tough, and viscid Mass, of the Consistence of Honey, and of a blackish, brownish, or reddish Colour. It is sent over to us with Fragments of the Skins of the Pods, and a great Quantity of nervous Filaments, and with the Seeds which are square and flattened, hard, and of a reddish or blackish Colour among it. The Pulp is to be cleared of all these for medicinal Uses; it is of an agreeably acid Taste, and is generally mixed with a larger or smaller Quantity of Sugar in order to its keeping; and is often spoiled by this being added in too abundant a Quantity by Way of encreasing the Bulk.

The Pulp of Tamarinds for medicinal Use is to be chosen fresh, tough and thick, of a blackish Colour, though not without some Mixture of Redness in it, and of the sharpest Taste that may be. It must not be too dry, yet such as has been laid in a Cellar to keep it moist, which is a very common Trick among the Druggists, is to be rejected. This unnatural Humidity spoils the Pulp, and it may be always discovered by the over Wetness of the Surface of the Pulp, and by the Seeds being swelled and softened.

There is scarce any thing in the Druggists Trade more liable to Adulteration than Tamarinds; the common Method is that of doing it with the Pulp of Prunes driven through a Sieve; but it is also done with Vinegar and Sugar. The adding an over Quantity of Sugar is the common Trick of all; and this not only encreases the Bulk unwarrantably, but destroys by Degrees the Acidity and Virtue of the Pulp.

Tamarinds were unknown to the ancient *Greeks*, some are apt to imagine they must have been familiar to them by the Name of *Oxyphænice*, which is frequently given them by Authors, and which is plain *Greek*. But this Name is no older than *Æturius*, from whom the rest of the later *Greeks* have copied it; and from them the Writers in other Languages. The common Name Tamarind comes from the *Arabian*, *Tamar bendi*, or the Fruit of the *Indies*; for *Tamar* with them, taken in a large Sense, expressed all Kinds of Fruits. We have the Tamarinds commonly in Use from the *Levant*; they are very frequent in *Ægypt*, and in the *East Indies*; and many Parts of *America* also abound with them.

The Tree which produces them is of the Number of the *Triandria Monogynia* of *Linnaeus*, and of the *Arbores siliquosae Flore uniformi* of Mr. *Ray*. It is described by all the botanical Writers under the Name of *Tamarindus*, and *Silqua Arabica*. The Tree rises to the Height of our Walnut Trees, and spreads as broad with its Branches as they do; the Leaves are pinnated in the Manner of those of the Ash; the Flowers grow in Whorls from the *Axils* of the Leaves, and are of a pale Flesh Colour variegated with deep red Veins. The Fruit is a Pod much like that of a Bean, and is marked with three or four Protuberances; this Pod has a double Rind or Bark; the external one, thick, and of a reddish brown; the internal one is green and thinner; and the Space between these is filled up with the Pulp which we call Tamarind, with several long Capillaments in it, extending themselves from the Base to the *Apex* of the Pod.

Tamarinds on a chemical Analysis afford a great Quantity of Acid, and no small Portion of Oil. Six Pound of Pulp of Tamarinds dissolved in eight Pints of Water, and set in a cool Place, will, after a Month or two, be found to have shot about six Drams of an essential Salt against the Sides of the Vessel; and if the whole be suffered to stand some Months longer undisturbed, a much larger Quantity yet will be formed. These Crystals differ very little from those of Tartar, or what is commonly called Cream of Tartar; they are of the same Taste with it, and will not be dissolved in Water unless by boiling. It is even observed in *Egypt* and *Æthiopia* where the Tree is common, that it at times exsudates in hot Weather a viscid Substance of an acid Taste; which by Degrees hardens into a Matter wholly resembling Cream of Tartar, both in Colour and Taste.

Tamarinds, after some Days Digestion, afford by Distillation an acid Liquor, wholly like distilled Vinegar.

The *Turks* and *Arabians* are very happy in the vast Abundance of Tamarinds produced among them; they carry them with them on their Journeys, and quench their Thirst with them where Water is not to be had to do it.

We use them in Medicine as a Purge, but they are extremely mild and gentle in their Operation; they require to be given in a very large Dose to have any palpable Effect; and after giving a Stool or two, they prove gently astringent. This however is not all the Business we have for them, we give them in Fevers to quench Thirst, and to temperate the Acrimony of the Humours. They are said also to cure the Jaundice without the Assistance of any other Medicine, and in bilious Diarrhoeas and nephritic Complaints, they have been known to do eminent Service.

Tamarinds are found to encrease very considerably the purgative Virtues of Manna and of Cassia, and ought always to be given with them, when they are intended to operate any thing briskly. Tamarinds alone may be taken an Ounce or two at a Time, and are seldom found to purge over much even those who eat them in much larger Quantities on Account of their Pleasantness. They are an Ingredient in the Lenitive Electuary, and have been so in many other of the purgative Forms of this Kind in the Shops, most of which are however now disused. Tamarinds are a very proper Admixture with the resinous Purges, such as Scammony, Resin of Jalap, and the like; they all operate the more gently if made into Boluses or other Forms with them.

C H A P T E R III.

CASSIA FISTULA,
Pudding Pipe.

CASSIA *Fistula*, or as others call it, *Cassia Solutiva*, is a very singular Fruit ; it is a long and slender Pod, not unfrequently two Feet or more in Length, and seldom exceeding an Inch in Diameter. It is of a blackish Colour and shining Surface externally, and when broken is found to be composed of a thin but somewhat hard Coat, yellowish within though black without, enclosing a cylindric Cavity ; not carried uninterruptedly the whole Length of the Pod, but separated into a great Number of Cells by certain thin and tender *Septa* or Partitions, which stand across the Cavity at certain Distances. The several Cells thus formed contain a Pulp very soft to the Touch, of a deep black Colour and sweet Taste like that of Honey, but with some Admixture of Acidity in it. This is the medicinal Part, and in this are lodged the Seeds which are hard, oblong, and flatted, and of a yellowish Colour.

We have two Kinds of *Cassia Fistula* in the Shops, the *Oriental* and the *Occidental* : These differ in the Form of the Pod and Taste of the Pulp, yet they are the Fruit of the same Species of Tree, only growing in different Parts of the World. The *Oriental* or *Alexandrian Cassia*, which is brought to us from *Ægypt*, has a thin Rind and a sweet and fine Pulp ; the *American*, which is brought from several of the Settlements, where it is cultivated for Use, has a thicker and more rough Bark, and the Pulp is more acid and nauseous. This *Cassia* is to be purchased much cheaper than the *Alexandrian*, but it is greatly inferior to it in Virtue.

Cassia is to be chosen in full and fresh Pods, heavy and not ratling when shaken, as is the Case when the Pulp is decayed or dried away, the Seeds then rolling loose about in the Cells. When broken the Pulp within them should be of a shining black Colour, sweet and pleasant, not rough or acerb, which is the Case when the Pods were gathered unripe ; and not sharp or upon the Fret, which is the Case with much of it that has been kept too long. The Druggists have a Way of laying the Pods in Cellars or under wet Sand to keep the Pulp from drying in them ; but this soon destroys the whole Value, the Pulp either rotting or fretting by it. The Pulp is to be separated from the Seeds and other extraneous Matters, by driving it through a Sieve, in order to fit it for Use.

Cassia Solutiva was wholly unknown to the ancient *Greeks* ; they had a Name indeed for a Drug in frequent Use among them, which sounds very like our *Cassia Fistula*, that is *Cassia Syriac* ; but they meant by this an astringent Bark, not a purgative Fruit. We also call a Bark of the Cinnamon Kind by the Name of *Cassia*, and *Cassia lignea* ; but it has no Analogy to this *Cassia*.

The *Arabians* were the first who discovered the *Cassia Fistula* or *Solutiva* as a Medicine, and they are very full of its Praises. *Serapio* calls it *Eiarxamber*, and *Avicenna Chaiarsander* ; and *Aetnarius* and the modern *Greeks*, who had the Knowledge of it from these Authors, not *Cassia Fistula*, but *Cassia nigra*.

The Tree which produces it is one of the *Decandria Monogynia* of *Lin-*
naeus.

næus, and one of the *Arbores filiquosæ Flore uniformi* of Mr. Ray. It is described by all the modern botanical Writers under the Name of *Cassia Fistula*, *Cassia Purgatrix*, and *Cassia nigra*. It much resembles our Walnut Tree in its Size and Manner of growing; its Leaves are also formed like those of that Tree; among these there grow Pedicles three or four together, which sustain each a Number of Flowers, and give the whole Tree when in Flower a very beautiful Appearance. The Flowers stand each on a Pedicle, an Inch or two in Length, and are of a greenish yellow Colour. The Pods succeed these, and their pulpy Matter is at first white, then yellowish, and then black. The *Cassia* Tree Flowers in *April* and *May*, and at that time is wholly destitute of Leaves. It is not a Native of *America*, but is one of those Trees which they have been at the Pains to cultivate from Seeds, sent from the *East-Indies*, where it is very common; but the Soil of *America* does not agree so well with the Tree, as to bring the Pulp of the Fruit to its due Perfection.

Two Pound five Ounces and a half of the Pulp of *Oriental Cassia*, chymically analysed, yields by Distillation in a *Balneum Vaporis*, six Ounces and a half of an insipid Water, smelling indeed a little of the *Cassia*, and on trial, tho' not to the Taste, manifesting a latent acid, turning Syrup of Violets red. After this comes over an Ounce and half of an entirely insipid and inodorous Phlegm. The remaining Matter weighing, when dry'd, twenty eight Ounces and a half distill'd by the Retort, affords ten Ounces and a half of a reddish acid Spirit; of a mix'd acid and urinous Spirit, a little more than an Ounce; and of a merely urinous Spirit, a little more than half an Ounce; with about the same Quantity of an empyreumatic Oil. The remaining Matter in the Retort will then be a Coal weighing somewhat more than ten Ounces, this with a continued burning till it emit no more Vapours, will be reduced to an Ounce and five Drams, and from this more than six Drams of an alkali Salt may be extracted by Lixivation, Pulp of *Cassia* easily becomes sharp and ferments, and if dissolved in Water, and set by in a cool still Place, for some time, an essential Salt crystallizes from it wholly like that of Tamarinds, and scarce distinguishable from the Crystals of Tartar.

The fresh and sweet Pulp of *Cassia* is a mild and an extremely safe Purge, it may be given under almost any Circumstances to Persons of all Ages, Sexes, and Constitution, but there requires a large Dose of it to work. It is given with Success in inflammatory Fevers, and in Disorders of the Breast, Kidneys and Bladder. It is eminent for doing great Service in many Cases, in which any other Purge would do Mischief by its Irritation. It is excellent also given in small Quantities against that painful Disorder, habitual Costiveness; and it will often do good in Head-achs, and many chronic Cases where little might be expected from so gentle a Medicine; except by those who know what great things may be done by a constant Course of Medicines, whose Effect in single Doses would be trifling. People have an Opinion that *Cassia* given to Infants, before they take any other thing by the Mouth, will prevent their having the Small Pox afterward; to this Purpose three Drams of the Pulp are dissolved in six Ounces of Veal or Chicken Broth, and given the Infant by a spoonful at a time, before it is suffer'd to suck; but we want Proof of so remarkable an Effect of it.

Cassia is given from two Drams to an Ounce and half for a Dose as a Purge,
but

but it is very rarely given singly; it is the Basis of the famous Lenitive Elettuary of the Shops, and has in the same manner been the Basis of many other Compositions of the same Intention now grown into Disuse.

Dissolved in Milk and given by way of Clyster, it is an excellent Relief in Cases of the internal Hæmorrhoids.

We are not to omit, that beside the *Oriental* and *American Cassia* already described, there is a distinct Species peculiar, as far as is hitherto known, to the *Brasils*; we sometimes meet with the Pods of this sent over into *Europe*. They are much thicker, and their external Coat much harder than in the others, and are of a somewhat compressed or flattened Form. The Tree which produces these is described by *Piso* and *Maregrave*, under the *Brasilian* Name *Tapyra-coaynana*, and by *Breynius* in his first Century, under that of *Cassia fistula Brasiliana flore incarnato*. It is a very tall and beautiful Tree, the Flowers are not only different in Colour from those of the other *Cassia*, but they are also smaller: the Pods contain in their Cells with the Seeds, a Pulp of a brownish black Colour of a bitterish and disagreeable Taste; this is an Astringent if taken out before the Pods are ripe, but a Purgative like the others if taken out when ripe. It has been called *Cassia fistula non purgans* by some Authors, but with little Reason.

CHAPTER IV.

CARYOPHYLLUS,

The Clove.

THE Clove is a Fruit gather'd while unripe and dry'd for Use. Its Figure is oblong and not very thick, and somewhat resembles that of a Nail. Its Surface is rough, and its Colour a dusky brown, with an Admixture as it were of blackish and reddish in it. It is moderately hard, and considerably heavy; and at the top it has four little Prominences which make the Figure of the Head of the Nail; they stand in the Figure of a Cross, and support in their Center a round Body of the Bigness of a Pepper Corn. This is composed of a Series of thin Leaves placed over one another, on the opening of which there are discover'd a Number of small and slender Fibres of a reddish Colour; and among these there arises from a quadrangular Cavity, a strait and erect Stile. This is the true Figure and Structure of the Clove which we use as Spice, but we do not always meet with it perfect, the round Body just described being frequently wanting to them, having been struck off in the Carriage. The whole Clove is of an extremely fragrant and aromatic Smell, and of an acrid, pungent, and very aromatic Taste.

Cloves are to be chosen the largest, fairest, and darkest coloured that can be had, the heaviest and most unctuous on the Surface, and such as feel oily when pressed between the Fingers. Cloves were not known to the antient *Greeks*, there is not a word about them or any thing that can be supposed to belong to them in the Writings of *Theophrastus*, *Dioscorides* or *Galen*; *Serapio* indeed quotes *Galen* in his Chapter of Cloves, but very erroneously. *Pliny* is supposed by some to have known them, but even this also erroneously; 'tis true indeed that he speaks of a Spice produced in the *Indies*, and called *Garyophyllum*,

ophyllum, but then he tells us that it was like Pepper, but that it was larger and more brittle: This might serve very well for a Description of the modern *Pimenta*, but by no Means of the modern Clove: It has been supposed by many that our Cubebs are the Fruit thus described by *Pliny*, under the Name of *Garyophyllum*. *Paulus Aegineta* speaks of the Clove, and plainly means the very Kind we use, and the *Arabians* were evidently well acquainted with it. The Tree which produces the Cloves is a Native of the *Molucca* Islands; the *Dutch* cultivate vast Quantities of it in the Island of *Ternata*, and thence supply us with all the Cloves we have.

The Tree is one of the *Arbores fructu umbilicato minore sive Bacciferae umbilicatae* of Mr. Ray. It is described by botanical Writers under the Name of *Caryophyllus Arbor*, or *Caryophyllus Arbor fructu oblongo*: and by *Piso*, under that of *Tshinka*. It grows to fifteen, twenty, or more Feet in Height. Its Trunk is often a Foot and half in Diameter, its Bark is smooth, its Branches spread very wide and irregularly, and its Leaves resemble those of the Bay Tree in Shape: they are three or four Inches in Length, and about half as much in Breadth; they are smooth and of a shining green, and stand alternately on the Branches, on Pedicles of an Inch long. The Flowers grow in Clusters at the Tops of the Branches, and are of the tetrapetalous rosaceous Kind, of a pale blue Colour, and of an extremely fragrant Smell. Each Petal is mark'd with three Streaks of white, and in the Center of the Flower there stand a Number of *Stamina* of a reddish Colour with their Apices. The Calyx or Cup of the Flower is half an Inch long of a cylindric Figure, and of about an eighth of an Inch or more in Thickness; it is of a dusky Colour, and of an acrid Taste, and is divided into four Parts or Segments at the Top. This Cup, when the Flower is fallen, becomes as it ripens a Fruit of an oval Form somewhat resembling an Olive. It is umbilicated and contains only one Cell, in which is placed a single oblong hard *Nucleus* of a black Colour, and mark'd on one Side with a Furrow running all the way along it. The Fruit when perfectly ripe and of this Form, is called by our Druggists the *Antophyllus* or Mother of the Clove. If left on the Tree till the next Year it then naturally falls off, and if buried in the Earth at a few Inches deep will produce a young Tree. The aromatic Smell and Taste, and the Virtue of the Clove is less eminent in these full grown Fruits than in such as we have in Use.

These are gather'd before the Flowers open, the Cups of the Flowers and the Embryos of the Fructification making what we call the Clove, and possessing the Virtues of this Spice in the highest Degree; it is therefore, that in carefully opening the globular Body on the Summit of the Clove, we find the Rudiments of *Stamina* and *Apices* always there. They are gather'd from the Month of *October* to the middle of *February*, partly by the Hands, and partly by Means of long Twigs with which they strike them off the Branches. They are of a reddish Colour with very little Blackness among it when thus fresh gather'd; but as they dry they become blacker. They are laid on Hurdles as soon as gather'd, and a small Fire is made under them; and afterwards their drying is compleated in the Sun.

While fresh they afford on simple Pressure a very fragrant thick reddish Oil, on Distillation they afford a vast Quantity of an aromatic Oil, part of which that comes first over is light, and of a yellowish Colour, but the Re-

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mainder of it is reddish, and so heavy that it sinks in Water: After this, if the Fire be urged to a greater Violence, a thick and empyreumatic Oil will be driven over in some Quantity, and finally an acid Liquor. The Residuum afterwards affords a small Quantity of a fix'd Salt by Lixivation, but this is less an Alkali than the Generality of other Salts procured by that Process.

Cloves are used as a Spice in Foods, and make an Ingredient in most of the family Wines, or spirituous Cordials. They are in Medicine carminative and good against all Distemperatures of the Head arising from cold Causes. They strengthen the Sight, and will alone cure many Kinds of Head-achs: They are also good against Faintings and Palpitations of the Heart, and against Crudities on the Stomach; they are also esteem'd provocative to Venery, and great Resistors of Contagion: They are given from three Grains to six or eight for a Dose, but are very seldom used singly, or in their crude State. There is an essential Oil obtained from them *per Descensum*, or by Distillation in the common Way, which possesses all their Virtues, and in which Form they are generally used. This Oil is carminative, and is an Ingredient in the purging Pills made of the rougher Catharticks. It is also good as an external Application to carious Bones, and is one of the usual Remedies for the Tooth-ach, a Drop or two of it on Cotton apply'd to the Tooth. Its Dose internally is not more than a Drop or two.

The *Antophylli* or ripe Cloves are scarce ever met with in our Shops. The *Dutch* preserve them while fresh with Sugar in the way of a Sweetmeat, and are fond of them after Meals to promote Digestion.

Beside this ripe Clove or *Antophyllus*, there is what is call'd a distinct Species, the *Caryophyllus regius* or Royal Clove. This is a Kind of Clove of the same Colour, Taste and Smell of the common Clove, but of a particular Figure, but this neither capitated nor stellated as Authors have sometimes described it, but cut as it were into a number of small Scales from the Bottom to the Top, where it terminates in a sort of Point. The *Dutch* tell us that they have never met with more than two or three Trees of this Clove, and that they grow only in the Island of *Makian*; but it is very probable that *Ray* and *Herman* are more in the Right, who do not allow this to be a distinct Species of Clove, or the Produce of a different Tree, but only a *Lusus Naturæ* of the common Clove.

Bodæus a Stapel has described this Clove under the Name of the *Caryophyllus Ramosus* or *dentatus*. *Piso* calls it the *Caryophyllus Spicatus cedis Tshintaa* or *Popæna*, and *Marinus*, and others the *Caryophyllus regius*, a Name given it originally by the *Dutch*, from the Opinion the great Men of that Part of the World have of its Virtues, or rather of its Rarity.

CHAPTER V.

NUX MOSCHATA,
Nutmeg.

THE Nutmeg is a Kernel of a large Fruit not unlike the Peach, and is separated from that, and from its investient Coat the Mace, before it is sent over to us; except that the whole Fruit is sometimes sent over in Preserve, by way of Sweetmeat, or as a Curiosity. The Nutmeg, as we receive it, is of
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a roundish or oval Figure, of a tollerably compact and firm Texture, but easily cut with a Knife, and falling to Pieces on a smart Blow. Its Surface is not smooth but furrow'd with a number of Wrinkles, running in various Directions, though principally longitudinally. It is of a greyish brown Colour on the outside, and of a beautifully variegated Hue within, being marbled with brown and yellow Variegations, running in perfect Irregularity through its whole Substance. It is very unctuous and fatty to the Touch when powder'd, and is of an extremely agreeable Smell and of an aromatic Taste, without the Heat that attends that Kind of Flavour in most of the other Spices.

There are two Kinds of Nutmegs in the Shops, the one call'd by Authors the Male, and the other the Female. The Female is the Kind in common Use, and is of the Shape of an Olive: The Male is long and cylindric, and has less of the fine aromatic Flower than the other, so that it is much less esteem'd, and People who trade largely in Nutmegs will seldom buy it. Beside this oblong Kind of Nutmeg, we sometimes meet with others of perfectly irregular Figures, but mere *lusus naturæ*, not owing to a different Species of the Tree. The long or Male Nutmeg, as we call it, is call'd by the *Dutch*, the wild Nutmeg. It is always distinguishable from the others, as well by its want of Fragrancy as by its Shape: It is very subject to be Worm-eaten, and is strictly forbid by the *Dutch* to be pack'd up among the other, because it will give Occasion to their being Worm-eaten too by the Insects getting from it into them, and breeding in all Parts of the Parcel.

The largest, heaviest, and most unctuous of the Nutmegs are to be chosen, such as are of the Shape of an Olive, and of the most fragrant Smell.

There are not wanting Authors, who suppose Nutmegs to have been known to the earliest *Greek* Writers, whose Works we have. *John Baubine* imagines the *Comacus* of *Theophrastus* to be our Nutmeg, but it is not to be imagined that so valuable a Spice, if at all known to them, could have been neglected or treated with Contempt; yet we find neither *Dioscorides* nor *Galen* saying a Word of any such Drug. It is supposed that *Pliny* also was acquainted with the Nutmeg, and that he has mentioned it under the Name of Cinnamon, and even knew the Oil made of it by Expression, and at this Time kept in the Shops, which they think he means by his *Caryopus*, a Juice said to be express'd from that *Cinnamomum*, but this seems wild and erroneous: The Authors of *Pliny's* Time knew nothing of such a Spice, nor even of the Mace, which they cou'd never have miss'd of if they had known the Nutmeg. The Mace described by the Antients was a Bark of a Tree, not at all of the Nature of our Mace. The *Arabians*, it must be own'd, were perfectly acquainted with the Nutmeg and Mace. *Avicenna* describes them both very well.

The *Dutch* import the Nutmegs and Mace from the *East-Indies*, and supply all *Europe* with them. The Tree which produces them is of the number of the *Arbores pruniferae* of Mr. Ray. It is described by the modern Botanists under the Name of the *Nux Moschata fructu rotundo*, by *Piso* in his *Mantissa* under that of *Pala*. It is not unlike our Pear-Tree in its manner of Growth: Its Wood is spongy and soft, and its Bark of a greyish Colour: The Leaves stand always nearly over-against one another, though not exactly in Pairs; they are in Shape somewhat like those of the Bay-Tree, smooth, green on the upper Side, and hoary underneath. They are three or four Inches in Length, and terminate in a long

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and narrow Point. The Flowers are of a pale yellow, and consist of five Petals, and are not unlike those of our Cherry-Tree in Form: These are succeeded by the Fruit which hangs on a long Pedicle, and is of a roundish Figure like a Peach, or a large Walnut with the green Shell on it. The Nutmeg, which is the Kernel of this Fruit, is enclosed in a threefold Covering; the first or outermost is thick and pulpy, hairy, and spotted with reddish, yellowish and purplish, and is of an austere Taste; this is of the Thickness of a Finger all round the Kernel, and when thoroughly ripe it opens of itself. Under this there lies a second Covering, which is a tough membranaceous Matter, flat and divided irregularly into a great number of Branches; this is of a very fragrant Smell and of a yellowish Colour, and is what we call Mace. Under this is the third and innermost Covering of the Nutmeg, which shews itself through the Fissures of this, and is a thin but hard and woody Shell or Coat, brittle and of a reddish Colour, under which is the Nutmeg filling up its whole Cavity; this is soft when first gather'd, but it hardens in drying into the Consistence we find it of.

The Leaves of the Nutmeg-Tree, whether green or dry'd, have when bruised a very fragrant Smell, and the Trunk or Branches cut or broken off, yield a red Liquor like Blood, which stains any thing it touches in such a manner that the Spot is hardly to be wash'd out. This is the Tree which bears the Nutmegs we have in common Use, and which are call'd by some the Female. The Tree which produces the Male, or long Nutmeg, is taller than this, and has fewer Leaves, but those much larger and of a dark green Colour, insipid to the Smell, and of an austere and astringent Taste. The Fruit is also larger, its pulpy Part more solid, and its Mace dryer and paler. The woody Shell under this is thicker and harder and blackish, and finally the Nutmeg itself is beautifully vein'd, but darker than the other, and of very little Fragrance. These Trees grow wild in the mountainous Parts of the *Moluccas*, the others are cultivated with the utmost Care. The Nutmeg is gather'd and prepared in this Manner, the Natives climb the Trees and pull off the ripe Fruits, and there are others of them ready under the Tree to receive them; they cut off the pulpy Shell and throw it away: The Heaps of this Matter, after they are corrupted, give Origin to a peculiar Kind of Fungus, call'd by the People there, the Nutmeg Mushroom, which is of a very delicate Flavour and greatly esteem'd. The Nuts are then carried to the Houses, where they nicely take off the Mace, breaking it as little as possible in the Operation. The Nutmegs are then exposed to the Sun for three or four Days in their woody Shell, and after this are laid on Hurdles over a slow Fire, till so well dry'd that they will rattle briskly in the Shell on shaking; this is the Token of their being sufficiently dry and hardened, for at first they can be scarce heard on shaking; after this they are gently beat with Sticks till the Shell is broke to Pieces and falls off. When the Nutmegs are thus clear'd of their Shell they are separated from the Fragments of it, and are divided into three Parcels; the finest are separated for the sending over into *Europe*, the second sort for using in the *Indies*, and the smallest and most irregular for the expressing the Oil from. Not a small Parcel of these last also are annually burnt.

Those which are selected for sending into *Europe*, are not however yet done with; they would be easily destroyed by Accidents, if they were not pre-

vented by steeping them first in a Kind of Lime Water. A Quantity of Lime is made for this Purpose of burnt Sea Shells ; this is flaked and diluted to the Consistence of a Pultice with Salt Water. The Nutmegs are put into open Baskets, and plunged two or three Times into this Matter, till it have touched every Part of them ; and they are after this laid together in Heaps. They there heat of themselves, and the superfluous Moisture they contain is by that Means driven off ; when they have lain in these Heaps a proper Time, they are spread to dry, and are then fit for packing up.

Beside these naked Kernels, we have sometimes large Quantities of the whole Fruit sent over to us preserved upon the Spot ; the Manner of their curing these is this ; they carefully gather the whole Fruit when moderately ripe, and not yet burst ; they boil them in Water a little while, and pierce them through with a sharp Bodkin ; after this they set them to steep eight or ten Days in fresh Water, till they have lost all their Roughness ; after this they are thrown into a Syrup made of equal Parts of Sugar and Water, and in this they are finally boiled till they are as soft as they are required. If they are intended to remain hard, a little of the shell Lime is added while they are boiling. The Syrup not yet thick enough for keeping, is daily poured off from the Fruits, and boiled up a little, and returned on them again. This is done for seven or eight Days together, and at the End of that Time it is boiled to a due Consistence, and the Nutmegs are thrown into it, and covered up.

The pulpy Part of the Fruit thus treated becomes very pleasant ; the People of the *Eastern* Part of the World are fond of it with their Tea ; they sometimes also chew the Mace ; but the Nutmeg itself they always throw away. Nutmegs abound with essential Oil, part fine and thin, part thicker and coarser ; a little acid Salt and an astringent Earth may also be separated from them by a chemical Analysis. If the Nutmegs are macerated in Water, and then distilled in the ordinary Way, they afford about an Ounce of Oil from every Pound, but this has very little of the Fragrance of the Spice ; by Expression more than three Ounces of a thick Oil like Butter may be obtained from a Pound of the Fruit, and is found to have all the Fragrance and Virtues of the Nutmeg.

Nutmeg is greatly used in our Foods, and is of excellent Virtues as a Medicine ; it is a good Stomachic, it promotes Digestion, and strengthens the Stomach. It also stops Vomiting, and is an excellent Remedy in Flatus's, and is happily joined with Rhubarb and other Medicines in Diarrhoeas. It is observed to have a soporific Virtue, and to exert it too strongly if taken in immoderate Quantities. It has a considerable Degree of Astringency, and given after toasting before the Fire till thoroughly dry and crumbly, it has sometimes been known alone to cure Diarrhoeas.

CHAPTER VI.

M A C I S,
Mace.

IN the Description of the Nutmeg, we have already occasionally mentioned this Spice, which is the second Coat or Covering of the Kernel of that Fruit. It

It is a thin and flat membranaceous Substance, of an oleaginous Nature, and of a yellowish Colour. We meet with it in Flakes of an Inch or more in Length, which are divided into a Multitude of irregular Ramifications: It is of an extremely smooth Surface, and of a tolerably close Texture, yet friable, and very easily cut to Pieces. It is of an extremely fragrant, aromatic, and agreeable Smell, and of a pleasant, but acrid and oleaginous Taste. It is to be chosen new, not dry, and of a fragrant Smell, tough, oleaginous, and of a good yellow. The People who collect the Nutmeg Fruit, cut it open and throw away the pulpy Substance or external Coat; they then see the Mace covering the Nutmeg, and wrapping itself every Way round its outer woody Shell. The Mace is at this Time of a red Colour; they take it carefully off from the Nutmeg, and lay it in the Sun for the whole Day. In this Time, its Colour, from a strong Blood Red, becomes dusky; it is after this carried to another Place where the Sun has less Power, and there exposed again to its Rays for the few Hours they reach thither. By this Means it dries gently, and remains tough, and retains its Fragrancy and Colour in a great Degree; if it were dried more hastily it would be whitish, brittle, and would lose much of its Smell. After this it is slightly sprinkled over with Sea Water, and then put up into Bales, in which it is pressed down firm and close, by Way of preserving its Fragrance and Consistence.

There is great Caution to be had to the State in which it is packed up, for if it be too dry, it will be broke and lose much of its Fragrance; and on the other hand, if too moist, it will be subject to breed Worms and other Insects.

Mace abounds with the same Sort of Oil that is found in the Nutmeg; but it is thinner in the Mace, and is in a greater Quantity. If the Oil be separated by Distillation, what comes first over of it is thin and limpid like Water, and is of the most fragrant Smell; what follows this is yellowish and somewhat thicker; and finally a third Kind comes over if the Fire be made more violent, which is reddish; and all three of these are so subtle and volatile, that if they are not kept in Vessels very closely stopped, they will in great part evaporate into the Air, all their finer Parts flying off. An Oil may also be drawn from Mace in the same Manner as from Nutmeg by Expression; it is afforded in a larger Quantity this Way than from the Nutmeg, and is of a somewhat softer Consistence.

Mace is carminative, stomachic, and astringent; it possesses all the Virtues of the Nutmeg, but has its Astringency in a smaller Degree. It affects the Head in the same Manner as the Nutmeg if taken in a large Dose, and People have become delirious for some Hours, after an immoderate Use of it. The Oils of Mace and Nutmeg, whether prepared by Distillation, or by Expression, are so much of the same Nature, that they may be indiscriminately used for one another on all Occasions. They give Ease in Cholics, and often in nephritic Cases, taken internally from one Drop to five or six of the distilled Oil, or an equal Quantity of the expressed; and externally they are of Use to rub up paralytic Limbs; they also assist Digestion, and will often stop Vomitings and Hiccoughs, only by being rubbed on the Regions of the Stomach. The Nurses have a Custom of applying Oil of Mace by Expression to Childrens Navels to ease their Gripes, and that often with Success; and we are assured by Authors of Credit, that rubbed on the Temples,
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it promotes Sleep. The Oils by Distillation are very properly added to the stronger Cathartics in Form of Pills, and prove excellent Correctives.

CHAPTER VII.

PIPER,

Pepper.

WE have three Kinds of Pepper at this Time in Use in the Shops; the black, the white, and the long Pepper. The Ancients supposed these to be all the Fruits of the same Plant gathered at different Degrees of Maturity; but later Discoveries have informed us otherwise. There is indeed a Way of making black Pepper into white, and the greater Part of the white Pepper that we meet with is such; but the true and genuine white Pepper, the black Pepper, and the long Pepper, are three absolutely different Fruits, produced by three distinct and separate Plants. Of these in their Order.

PIPER NIGRUM,

Black Pepper.

Black Pepper is a dried Fruit of a Plant, of the Size of a Vetch or Tare, and of a roundish Figure. Its Surface is corrugated and wrinkled, and is rather of a deep brown, than of an absolutely black Colour. It is light, but moderately hard, and its external Coat, which is no more than a thin Skin, being stripped of it, it appears of a more hard and compact Texture. The exterior Part of it now appears of a greenish yellow, and the interior white, and there is a little Cavity left between them. It has a pungent and not agreeable Smell, and is extremely acrid and hot to the Taste. Black Pepper is to be chosen firm, sound, in large Grains and not too light, nor too much wrinkled. We have it from the *East Indies* where the *Dutch* have Settlements.

The Plant which produces it is one of the *Diandria Trigynia* of *Linnæus*, and of the *Frutices Fructu per Maturitatem Sicco* of *Mr. Ray*. It is described by Authors under the Name of *Piper nigrum*, and *Piper rotundum nigrum*, *Lada*, *Molanga*, and *Piper Aromaticum*, and is the *Molago Coddii* of the *Hortus Malabaricus*. The Root is slender, tough, and blackish; the Stalks are long and creeping; they are of a green Colour and woody Texture, and like those of our common Hops; they will lie upon the Ground unless they have Supports. They have numerous Knots and Joints, and send Roots out at all these as they trail along upon the Ground. The Leaves stand singly and are roundish, and of a firm Texture, and each has five large Ribs in it; they are of a dusky green on the upper Side, and of a paler green underneath, and stand on short Pedicles. The Flowers are small and monopetalous, but divided into three Segments at the End; they have no Pedicles, but stand together several in a Cluster on the same Stalk. The Fruit which succeeds to these is the Pepper, twenty or thirty Grains of which will be found adhering to one Stalk; they are round and green at first, but when ripe they are red; they are perfectly smooth and plump while on the Plant; but as they are dried afterwards, their exterior Coat becomes wrinkled and blackish. The black Pepper Plant flowers sometimes twice, sometimes only once in the Year; four Months after the Time of flowering the Pepper is gathered and exposed

to the Sun, in an open Place for eight or ten Days. It is a Native of *Java* and *Malabar*, and is very abundant in *Sumatra*; the Manner of propagating the Plants in Places where they are cultivated for Use, is by planting Cuttings of the Branches at the Bottoms of large Trees, up which they climb, and require no farther Trouble. It is not only the Fruit that has the Heat and Acrimony we find in Pepper, the whole Plant has it, the Leaves, Roots and Branches are all acrid and fiery in the Mouth.

PIPER ALBUM, *White Pepper.*

The common white Pepper that we meet with is factitious and prepared from the Black in the *Indies*: They steep this in Sea Water, exposed to the Heat of the Sun for several Days, till they find the Rind or outer Bark loose on it; they then take it out, and when it is half dry, rub it about till the loose Rind is all off; they then dry the white Fruit, and the Remains of the Rind blow away like Chaff. A great deal of the violent Heat of the Pepper is taken off by this Process, and the white is consequently fitter for many Purposes than the black.

Though this is the common white Pepper of the Shops, yet there is another Kind sometimes brought over, which is a genuine Fruit naturally white. It grows on a Plant which Authors tell us differs in nothing from the black Pepper Plant but in the Colour of its Fruit, and is not to be known from it, except when it has ripe Fruit on it; but this seems an Opinion too hastily taken up. The white Pepper Plant is scarce, and has not been seen by many of those who have said this. The Specimen I have of it, has longer and narrower Leaves than those of the black, and the Fruit seems to have stood less clustered together. A single Specimen however is not enough to determine the Point; the Difference may be specific and essential, it may be only accidental; there will require a closer Inspection and better Opportunities of ascertaining the Fact. However that be, the white Pepper which is native, is much better than the factitious, indeed scarce inferior to the Black. The Plants which produce it are scarce, there are a few of them found in *Malabar*. *Flacourt* in his *Madagascar* tells us also of a Kind of white Pepper Plant growing there, but he does not describe it.

PIPER LONGUM, *Long Pepper.*

The long Pepper is a Fruit much more different from the black and white Pepper, than they from one another. It is gathered while unripe, and dried. It is usually of an Inch, or an Inch and half in Length, and of the Thickness of a large Goose Quill. It resembles in a great Measure the Catkins of some of our Trees, but that it is of a firmer and more compact Texture. It is striated in a very regular Manner, the Furrows running in an oblique spiral Form, and it has a Number of little Tubercles between them, disposed in a reticular Form. This is its external Figure; when broken it is found to be divided into a Number of small membranaceous Cells, disposed in a single Series; in each of these there is contained a single Seed which is of a roundish Figure, black on the Surface, and white within, and of a very acrid, hot, and somewhat bitterish Taste. The whole Fruit is of a brownish grey Colour, and is cylindric in its Figure; its Texture is not very firm, but
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it easily shatters to Pieces on a Blow ; it is light, and when fresh broken has a disagreeably pungent Smell. It terminates abruptly at one End in a Sort of little Tubercle, and at the other it has the Pedicle by which it adhered to the Stalk, which is slender, woody, and, when entire, is about an Inch long. Long Pepper is to be chosen in large full Pieces, fresh, not broken, or worm-eaten, and such as after having been tasted, leaves a very lasting Heat in the Mouth. When too long kept it is liable to be dusty and rotten, in which Case it is of no Value.

The Plant which produces it is one of the *Diandria Trigynia* of *Linnaeus*, and one of the *Frutices Flore Fruticue aggregato* of Mr. Ray. It is described by *Piso* under the Name of *Pimpilim* or *Piper longum*, and in the *Hortus Malabarius* under that of *Cattutirpali*. It much resembles the Plant which produces the black Pepper in its Manner of Growth, like that climbing on Trees or any thing that stands nearest, but its Leaves are longer, and are set on longer Pedicles, and its Stalks are less woody. The Flowers are small and monopetalous, but divided into five or six Segments at the Rim ; they stand close upon the Fruit, and the little Tubercles we see on the Fruit between the spiral Lines, are the Rudiments of the Bases of the Flowers.

Pepper has been known in all the Ages of the World that we have any Account of ; the oldest *Greek* Writers knew the three Kinds of it in Use at present, and have described them very well ; though they erred in supposing them the Fruit of the same Plant at different Stages of Maturity. The *Arabians* were as well acquainted with it as the old *Greeks*, and from their Time it has been in constant Use both in Food and Medicine.

Four Pounds of black Pepper, distilled in the usual Way in a Retort, afford eight Ounces and three Drams and a half of a pellucid Liquor, smelling and tasting very strongly of Pepper, and impregnated with a small Quantity of an urinous Salt ; after this between fourteen and fifteen Ounces of a reddish Liquor, of an empyreumatic Smell, an acid and subacid Taste, and giving Marks of its containing both an acid and an urinous Salt ; two Ounces five Drams and a little more of an urinous Spirit, a Dram of a volatile concentered urinous Salt, and half a Dram of a limpid essential Oil with eight Ounces of a thick Kind ; the remaining Mass in the Retort will weigh near nineteen Ounces, and when calcined till it will smother no longer, leaves near four Ounces of grey Ashes, from which about one third Part of a fixed Salt may be obtained by Lixivation, which is much of the Nature of the Salt of Tartar.

Pepper macerated in Water for five or six Days, and then distilled, will yield about half a Dram of a fine limpid Oil to the Pound, which is not so acrid and hot as might be expected from the Nature of the Subject. The Water which comes over with this Oil is very strongly scented of the Pepper, and tastes of it, but has also a Mixture of an Acridness that is owing to the volatile urinous Salt of the Pepper dissolved in it. This Water turns a Solution of corrosive Sublimate milky, and the Grains of Pepper, if dried and examined afterwards, are found to have lost all their Flavour and Pungency.

We mix Pepper in our Food principally to assist Digestion. The common People of the *East Indies* think it a great Stomachic, and drink a strong Infusion of it in Water, by Way of giving them an Appetite : And they have a Way of making a fiery Spirit of fermented fresh Pepper with Water, which

they use for the same Purposes. They also have a Way of preserving the common and the long Pepper in Vinegar, and eating them afterwards at all their Meals, especially in their cold rainy Seasons. We mostly use black Pepper, but the white is milder and better. The long Pepper is more acid and less agreeable to the Taste than the others, and is therefore almost entirely banished the Kitchen, and reserved for medicinal Purposes. They are all three Kinds the same in their medicinal Virtues. They all heat and dry, and are attenuant and aperient; they are excellent in Coldnesses and Crudities of the Stomach, and are Cephalic. They are generally used in Powder, but for all medicinal Purposes they are best swallowed whole; the Powder sometimes lodging in the *Rugæ* of the inner Coat of the Stomach, and causing an Inflammation there. Pepper is not to be given in Decoction, unless carefully added to the other Ingredients just at the End of the boiling, otherwise its Virtues fly off. Some commend it in intermittent Fevers, seven or eight Grains for a Dose, swallowed whole or only a little bruised: It is also commended by some as a great Remedy in Vertigoes. Whatever may be its medicinal Virtues, it is to be observed that the too frequent Use of it in Foods is very prejudicial.

PIPER ÆTHIOPICUM,
Æthiopian Pepper.

The Fruit called *Æthiopian Pepper* is of the siliquose or podded Kind; we usually see it in Clusters of three, four, or five Pods, growing to one Tubercle by Way of Head. They are as long as a Man's Finger when at their full Growth, but we see many of them shorter; they are as thick as the largest Goose Quill, and are of a rounded Figure, not short, but usually somewhat bent or hooked, and marked with as many Protuberances on the Surface, as there are Seeds within them. They are of a firm Texture, composed of long and tough Fibres, a little rough or wrinkled on the Surface, of a black Colour, not over heavy, but very hard to break, and when broken they appear of a greyish red. When carefully laid open, their Seeds are found to be contained each in its several Cell; these are divided from each other by a parenchymatous Matter. The Seeds themselves are of a roundish Figure, but a little oblong, and are of the Bigness of the smaller Sort of Kidney Beans; they are black on the Surface, and when broken they are found to be of a hard, but spongy or cavernous Matter resembling a Honey Comb in its Texture. It has but little Smell, but both the Seeds and the Pod have the Taste of black Pepper, whence its Name.

The *Greeks* of old Time were not acquainted with *Æthiopian Pepper*; the *Arabians* first brought it into Use in Medicine; and from the Place whence they received it, and from its fiery Taste, they called it *Æthiopian Pepper*. We only know that it is at this Time produced in the same Country, and used by the Natives for the Tooth Ach. We have yet had no Opportunities of knowing what the Plant is that produces it; nor have been at much Pains to bring it into Use in Medicine. It is very scarce among us, and those who have it keep it as a Curiosity, not with any Intent of trying its Virtues.

CHAPTER IX.

PIMENTA,

All Spice.

PIMENTA, which some from its round Figure, and the Place whence it is brought, have called *Jamaica Pepper*, and others from its mixt Flavour of the several Aromatics together, *All Spice*, is a Fruit of a round Figure, gathered before it is ripe, and dried for medicinal and culinary Use. It is of the Size of a small Pea, pretty regularly round, except that it has at one End an *Umbilicus* divided into four Parts. Its Surface is rough, and often considerably wrinkled; it is of a friable Texture, light, and easily broken, and is of a brown Colour, not very deep, and seeming to have some faint Cast of reddish intimately blended with it. When broken it is found to contain two black Kernels, covered with a blackish green Membrane; it is of a very pleasant aromatic Smell, and of an acrid aromatic Taste, more resembling that of Cloves than of any other single Spice, but having with it a mixt Flavour of all the rest.

Pimenta is to be chosen in large Grains, not too light, nor of too wrinkled a Surface, not dusty or broken, but clean and of a good Smell.

It has been but very lately known to the World; the first Knowledge of it in *Europe* was from *Jamaica*. The Tree which produces it is one of the *Arbores Fructu umbilicato minore* of Mr. Ray. It is described by *Hernandes* under the Name of *Piper Tavasci*. Some have called the Fruit *Amomum*, and *Canulus Indicus aromaticus*. Sir *Hans Sloane* calls the Tree *Myrtus arborea aromatica Foliis laurinis latioribus et subrotundis*. It is a Tree of a moderate Size, very bushy and full of Leaves; its Wood is of an aromatic Smell, and of a blackish red Colour when fresh; but by Degrees it grows quite black afterwards, like Ebony in the middle, round which solid Part or Heart, there is a great Deal of soft white Blea. The Trunk rises high; the Bark is smooth and glossy; and the whole Tree makes, in its natural State, a very beautiful Figure. The Leaves always grow in Pairs, and are long and somewhat broad, of a shining green; they stand on Pedicles, of about an Inch long, and are of an agreeable aromatic Taste, but with some Mixture of Bitterness. The Ends of the Branches divide into a Number of Twigs which sustain Clusters of Flowers that are small, and consist each of five Leaves. The Berries are green at first, and when perfectly ripe they are black and smooth, and contain a pulpy Matter about the Seeds, but when they arrive at this State, they are unfit for drying as a Spice. Sir *Hans Sloane* found the Tree very plentiful in the mountainous Parts of *Jamaica*; and *Plumier* in *St. Domingo*, and some other Places thereabout, but his Description differs from Sir *Hans's*, in giving broader Leaves to the Tree. Sir *Hans* has however observed that he found this Variety in it even in *Jamaica*.

The Fruits are gathered while green, and are exposed to the Sun on Cloaths for many Days, frequently shaking and turning them, till they are thoroughly dry; they take great Care that they are not wetted by the Morning or Evening Dews, and when thus dried, they are sent over to us.

Pimenta

Pimenta abounds with a fragrant essential Oil, which is separated in great Quantity in Distillation, and is so heavy that it sinks in Water. It is much used in our Foods, and sometimes in Medicine; it is indeed a very good Aromatic, and so well imitates the mixed Flavour of all the rest, that it has long been a common Practice to make the *Aqua Mirabilis*, which was ordered to be distilled from all the Spices of this Ingredient alone; and the Taste of the Water thus made, when carefully done, is so near the genuine, that a very nice Palate only can distinguish it.

The present College Dispensatory orders a simple Water to be distilled from it, a Gallon from half a Pound of the Spice, which is a better Carminative than any of the former Waters retained under that Name.

C H A P T E R X.

C A R D A M O M U M,
Cardamom.

WE distinguish three Kinds of Cardamoms in the Shops, exclusive of the *Anomum*, which is evidently also of the Cardamom Kind. These are distinguished by the Names of the greater Cardamom or Grain of Paradise; the long or middle Cardamom, called by some the great Cardamom, as they distinguish the true great Cardamom by the peculiar Name of Grain of Paradise; and the lesser common Cardamom of the Shops. Of these in their Order.

C A R D A M O M U M M A J U S S I V E G R A N A P A R A D I S I,
The great Cardamom, or Grain of Paradise.

The Generality of Writers use the Terms *Cardamomum majus* and *Grana Paradisi*, as synonymous and expressive of the same Fruit. *Cordus* however is of Opinion that they are properly the Names of two several Fruits greatly resembling each other in Shape, and only differing in this, that the Seeds of the true and genuine great Cardamom, are of the same Taste with those of the common Kind; whereas those of the *Grana Paradisi* are acrid at present and hot in a much greater Degree: Till we are better acquainted than we are with the Family of the Cardamom Plants, it is impossible for us to decide this Point.

The great Cardamom is a large and oblong Fruit, in Shape and Size much resembling a common Fig as growing on the Tree, and not ripe. It consists of a thin, but very firm and tough membranaceous Skin, elevated in different Places with several Courses of longitudinal Fibres, and furrowed, but not very deeply, between them; it has a broad circular *Umbilicus* in the Top, and is of a brownish Colour with a Cast of Red; within this are contained a vast Number of Seeds arranged in three separate Cells. These Seeds are of an irregularly angular Figure, about the Size of the common Cardamom Seeds when separated from their Husks, and of a reddish Colour. They are of an acrid and aromatic Taste, seeming composed of the separate Flowers of Thyme, Lavender, and Camphire. It is in this State of the whole Fruit, that we call this Drug by the Name of the great Cardamom; and *Matthioli* and most other Authors of Credit are of Opinion, that the Seeds, which as they are brought

brought to us loose and freed from their Membranes, are called Grains of Paradise. *Cordus* and some others however chuse to believe rather that these Seeds, called *Meleguetta* and Grains of Paradise, and always brought loose to us, are those of another Fruit of the same Form and Bigness, which they call the *Cardamomum majus semine piperato*. These Seeds are smaller than Pepper Corns, of an irregularly angular Figure, much resembling that of the common Cardamom Seeds, but of a reddish Colour, or else a brownish with a Cast of red in it on the Surface, and white and farinaceous within; more transparent in the central Part than elsewhere, and there resembling Camphire not only in Smell and Taste, but in Appearance also, when view'd by a Microscope. It is acrid and pungent to the Taste, more so indeed than either Ginger or Pepper; and when bruised it smells much like a Mixture of those two Species.

Whether this be in reality the Seed of the great Cardamom before described, wholly the same with that in the Pods, except as to the time of gathering, or some other trivial Circumstance, we are yet to be uncertain. The Plant is not known which produces them; we are told indeed by *Caspar Baubine* that its Leaves are thick and fleshy, four Inches long and three broad, and very highly rib'd; and that the Pedicle of the Leaf has the same Taste with the Seed, but this is a very imperfect Notice.

CARDAMOMUM MEDIUM,

The middle Cardamom.

The *Cardamomum medium*, or as some call it, *Cardamomum majus*, and others much more expressively, the *Cardamomum longum*, or long shaped Cardamom, is a membranaceous Fruit of an oblong and triangular Figure. It is met with from an Inch to an Inch and half or more in Length, and seldom exceeds the third of an Inch in Diameter; it is composed of a tough and thick Membrane striated very deeply, all the Furrows running longitudinally, and raised in three Places all along into Ridges that make it resemble a Prism or a triangular Body of equal Thickness, or nearly so throughout its whole Length. It is not perfectly strait however, but sometimes more, sometimes less crooked or undulated, and terminates in a blunt End. It is of a pale whitish brown Colour on the Surface, and when broken, which the Toughness of the Membrane makes not easy to be done, it is found to be formed within into three distinct Cells, in which are contain'd numerous Seeds, which are cover'd with several thin and fine Membranes. The Seeds are of an oblong, angular, irregular Form, somewhat compressed, and have a Furrow running along them, and several other smaller and transverse Lines. They are of a pale whitish Colour, with a Mixture of a reddish brown, and when broken or cut are quite white within: they are of an acrid and aromatic Taste. This is a Fruit that rarely comes over to us. The Plant which produces it is said to be of the same Genus with that of the small Cardamom next to be described; but to differ from it in that it is taller and has larger Leaves, and produces its Flowers in Clusters at the top, not on peculiar Shoots from the Root as that does. The Flowers of this are said to be white with a purple Border.

CARDAMOMUM MINUS,

The lesser Cardamom.

This is the common Cardamom of the Shops, and is what Authors always mean when they use the Word Cardamom singly, and without Addition of

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any Epithet of Shape or Size. It is a small short Fruit or membranaceous Capsule of a trigonal Form, about a third of an Inch in the Length, and swelling out into Thickness about the middle; beginning small and narrow from the Stalk, and terminating in a small but obtuse Point at the other End. It is striated all over very deeply with longitudinal Furrows, and is composed of a thin but very tough and firm Membrane, of a fibrous Texture and pale brown Colour, with a faint Cast of reddishness. This Membrane, tho' very firm and strong, is much less so than that of the long Cardamom; and when the Fruit is thoroughly ripe, it opens at the three Ridges all the way, and shews that it is internally divided by three Membranes, which indeed are so easily destroy'd, that they are not always to be expected to be found in their Places, into three Cells or Partitions, in each of which is an Arrangement of Seeds, separately lodged in two Series. The Seeds are of an irregularly angular Figure, rough and rugged and of a dusky brownish Colour on the Surface, with a Mixture of yellowish and reddish in it, and of a white Colour within: they have not much Smell, unless first bruised, in which Case they are much like Camphire under the Nose. In Taste they are acrid, aromatic, and firey hot. We generally meet with the Fruits single; but sometimes three or four of them are found adhering together in a Cluster by slender Pedicles.

Caspar Baubine, and some other Authors, have distinguished what they call another Species of this Fruit, under the Name of *Cardamomum minimum*. We frequently meet with such Specimens as they describe among the common lesser Cardamoms, but as they are altogether the same with the others, except in Size, it is more probable that they are the Fruit of the same Plant gather'd less ripe, than that they are of a different Species.

The Plant which produces the *Cardamomum minus* is described very accurately in the *Hortus Malabaricus*, under the Name of *Elatteri*, *Bontius* has given also a Description of it, which so far as it goes agrees with the other; but it is short and imperfect. The Root is long and thick and full of Fibres; the Stalks are round, and green, and smooth; they are near an Inch thick, and rise in the manner of our Reeds, whose growth they in many things emulate to ten or twelve Feet high; they are hollow, and have an insipid Pith in them mix'd with a Number of woody Fibres. The Leaves are two Feet long, and four or five Inches broad, with five small Ribs running longitudinally along them; these when broken are of an agreeable Smell, and are of an acrid and aromatic Taste. Beside these arundinaceous Stalks there arise from other Parts of the Roots small Shoots of eight or ten Inches high, surrounded with membranaceous Fibres, out of the *Axe* of which the Flowers are protruded. The Flowers consist each of four Petals, three of which are nearly equal in Length and Bigness, but the other has a long Stylus annex'd to it, and is somewhat broader than the others. The whole Flower is of a greenish white Colour, and is succeeded by the Fruit whose Coat or external Covering is at first succulent, but dries to what we see in the Shops. There are many of these Fruits on the same Shoot; and they are cluster'd together in the manner of the Grapes on a Bunch. There are three Species of this Plant described in the *Hortus Malabaricus*; but they are said to differ only in the Shape of the Fruit. The first of these has its Fruit round and whitish, this is esteemed the best and most valuable Kind, and is by some imagined to be the true *Amomum*; but this

this there are many Exceptions against. The second Kind has the Fruit of an oblong Form, and those of the third are pointed. The first of these we are there told grows on the Mountains about *Cochin* and *Colicut*, the other two grow in many Parts of the *East-Indies*, but particularly about *Cananor*: they love wet and shady Places. We sometimes meet with a Kind of small Cardamoms very round, yet quite different from the *Amomum*; these are brought from *China*, where they are called *Tsukeon*; these are larger than the common small Cardamom; and are probably the first Kind here mention'd. All the Kinds of Cardamoms abound in an essential Oil: bruised and macerated in Water, and afterwards distill'd, they yield a very considerable Quantity of it. The People of the *East* use them in Sauces, with us they are much esteemed in Medicine; but the smaller Kind is greatly the most esteemed. This is to be chosen sound, close shut on all Parts and full of Seeds, of a good Smell, an acrid aromatic Taste, and not rotten.

We have all the Kinds of Cardamoms from the *East-Indies*. The antient *Greeks* were well acquainted with the common lesser Cardamom, and do not seem to have known any other Kind; but the *Romans*, according to *Pliny*, made four Species of them, and the *Arabians* two. *Avicenna* describes two Kinds, the one of which he called *Cacula* or *Cacule*, and the other *Cordumena*; he ascribes to this last all the Virtues that *Dioscorides* does to the Cardamom he mentions; the other he distinguishes again into two Species, a larger and a smaller, and beside these he says much of the *Hilbua* or *Helbua*, and of the *Chairbua*, which seem also to signify some Sort of Cardamom, or of Grain of Paradise. *Scrapio* has it under the Name of *Cacule*, and makes also two Species, the one larger which he calls *Hib* or *Heib*, the other smaller which he calls *Hilbane* or *Hilbane*, or else *Hilbua*. The modern *Greeks* all use the Term Cardamom, where the *Arabians* use that of *Cacula*; and *Myrepsus*, in Imitation of their Distinction, speaks of a great and a small Cardamom. *Dioscorides* has left us no Characters by which we can determine whether the Cardamom of his time was or was not the same with ours, and that of the *Arabians*; but *Galen* and *Damocrates*, who certainly meant the same thing by that Name, explain themselves sufficiently on the Subject to inform us that the Cardamom of those times was evidently the same with our lesser Cardamom now in Use in the Shops.

The lesser Cardamoms assist Digestion, and strengthen the Head and Stomach; they are also diuretic and carminative, and promote the Menses. They are seldom prescribed alone unless for chewing at the Person's Discretion; they are a very common Ingredient in stomachic and carminative Compositions in extemporaneous Prescription.

CHAPTER XI.

AMOMUM, *The true Amomum.*

THE true *Amomum* of the Antients is a Fruit in many things approaching to the Nature of the Cardamoms, and of a roundish Figure; this has led many to think, that the round Cardamom described in the *Hortus Malabaricus*, and sometimes brought over from *China*, where it is call'd *Tsao Koon*,

Keon, was the true *Amomum*, but on Comparison of the two Fruits they are found to be plainly different. The true *Amomum* or *Amomum racemosum* in the most perfect State in which we ever meet with it, is a Congeries or Cluster of ten or twelve round membranaceous Fruits, the external Coats of which are striated like those of the Cardamoms, but are not tough like them but brittle. These Fruits stand clustering together, and pressing upon one another on the Sides, and have no Pedicle, but are affix'd by their Bases to a woody Stem, of about an Inch in Length, of a fibrous Texture and cylindrical Figure, of an aromatic Smell, acrid to the Taste, and furnished with Leaves standing close together, six of them surrounding every single Fruit in the manner of a Cup; these are of an oblong Figure, and beside these there are a multitude of little Squammæ or Flakes surrounding the Stem where there are no Fruits, with other smaller Leaves among them. Three of the Leaves which surround each Fruit are about half an Inch long, the other three are somewhat shorter; they are very thin, of a fibrous Texture, very aromatic and acrid, and are generally so contracted at their Ends in the drying, as not to stand out beyond the Fruits on the Clusters, and are often injur'd and broken in the Carriage.

The separate Fruits which compose this Cluster are of a roundish Figure, and of the Bigness of a small Grape: Each of them has a small *Papilla* or Tubercle at the Summit, and they have a great number of fine and small Lines on their Surface, which are form'd by so many slender Fibres, running longitudinally at small Distances from one another along the whole Fruit. They have three small Furrows also running along them, and as many small Eminences between them, which mark out the Arrangement of the Seeds into three Series, which are always found within the Fruit divided from each other by a fine thin Membrane. Each Series consists of a number of angular Seeds surrounded with their fine thin Membrane, and the several Seeds constituting each are so closely connected together, that the whole Fruit when opened seems to have only three long and large Seeds in it.

The whole Cluster Fruit, Stem and all, are usually of the same Colour; this is generally whitish, sometimes whitish with a Cast of brown, and sometimes with a Cast of reddish in it. The white Fruits generally are found to hold only imperfect or decay'd Seeds, the brownish a little better, but the reddish almost always have full, plump, and perfect Seeds in them. The Seeds are of an irregularly angular Figure, and are of a dusky reddish black Colour on the Surface and white within; they somewhat resemble the Seed of the smaller Cardamom externally, but they are not firm and tough as they are, but friable. The whole Cluster has a fragrant and aromatic Smell, somewhat like that of Lavender; the Seeds when separated have a stronger Smell, and when bruised are extremely aromatic and pungent; they are acrid to the Taste, and leave a Sensation like that of Camphire in the Mouth. The Husks and every Part of the Cluster have also somewhat of the same Flavour, but it is greatly weaker than in the Seeds.

The Plant which produces this, which is the true *Amomum*, is wholly unknown, and is not of the Cardamom Kind, as is evident from the Comparison of the Fruits of the *Amomum*, with what we know of the Fructification of the Cardamom: By this we see the Error of those, who, because a round Cardamom is described in the *Hortus Malabaricus*, think it must be the true *Amomum*.
The

The Fruit of the Cardamom seems to have stood under the Petals of the Flower, and indeed has been form'd of its Calyx, as is the Case in many of our common Plants; whereas it is plain from Inspection of a Cluster of the *Amomum*, that each Fruit has been originally formed within the Petals of the Flowers, or at least within the Leaves of the Calyx, and consequently has been probably form'd of the Pistil of the Flower. This is enough to prove, that the Amomum and round Cardamom are not only not the same Thing, but that they are evidently the Fruits of two different Genera of Plants; beside the Fruits of the Cardamom Kind all are supported on Pedicles, whereas those of the Amomum grow immediately to the Stem. We have an Account in the *Philosophical Transactions* from *Camelli*, of a Plant which he had found in the *Philippine* Islands, and calls *Tugus*, and which he declares to be the true Amomum; but his Description is so artless and inaccurate, that we are left in the Dark as to this grand Distinction, and cannot determine from it, whether the Plant he describes be truly the *Amomum*, or some of the Cardamoms with round Fruit.

The antient *Greeks* were very well acquainted with the *Amomum*, as is evident from the Description *Dioscorides* has left us of it, but the Knowledge of it was afterwards lost for many Ages, till one *Martinelli*, an Apothecary of *Verona*, brought it to Light, and to the Knowledge of the World again. The Opinions of the Writers on the *Materia Medica*, as to what was the true *Amomum*, have been almost innumerable: Some have supposed the Rose of *Jericho* to be it, others Cubebs, others Pepper of several Kinds, and others other Things as foreign to the Truth. *Marogna* is the only Author, who, after all this Confusion and Obscurity, dar'd to stand up in the Cause of the Truth, and to contradict them all, and describe the true *Amomum* under that Name. At present we sometimes meet with a single Fruit or two of it, but even these are rare, a Cluster of them probably has not been seen often of late Years, except the two or three that are preserved in the Cabinets of the Curious. The Virtues of the *Amomum* are very like those of the Cardamoms: We are told that it abounds with an essential Oil, which it readily parts with on distilling it in Water. The Seeds are Diuretic, Emmenagogue, and Carminative. The Antients used it in their costly Ointments: We at present hardly have its Name in any Composition except the *Theriaca Andromachi*, and there some Substitute or *Succedaneum* is always used in its Place.

C H A P T E R XII.

C U B E B A, *Cubeb.*

THE Cubeb of the modern Shops is a small dry'd Fruit, resembling a Grain of Pepper, but often somewhat longer. It is of a roundish Figure, and generally has the Rudiments at least of the Pedicle, by which it adher'd to the Plant remaining on it, sometimes the Pedicle itself, which is slender and small and of a considerable Length. It is of a greyish brown Colour on the Surface, and is composed of a corrugated or wrinkled external Bark, covering a single and thin friable Shell or Capsule, having only one Cavity within it, and in that containing a single Seed of a roundish Figure, blackish on the Surface and

and white within. The Cubeb has an aromatic though not very strong Smell, and is acrid and pungent to the Taste, less so indeed than Pepper, but its Acrimony remains a long Time on the Tongue and brings forth a large Quantity of Saliva.

We have what are call'd two Kinds of Cubebs brought over to us, but the whole Difference is, that the one sort are gather'd at a different Period of Maturity from the other, for both are produced from the same Plant. The *Indians* collect a Part of the Fruits of the Cubeb while unripe, and dry them separately, and afterwards a fresh Parcel of the ripe ones. The unripe Cubebs, when we receive them, are small, very wrinkled on the Surface, and when broken their Nucleus is found to be small and flaccid. The ripe ones are of a less wrinkled Surface, sometimes indeed intirely smooth, and when broken their Seed is found to be large, plump and full. These last are therefore heavier than the others.

Cubebs are brought into *Europe* from the Island of *Java*, where they grow in great abundance. They are to be chosen large, fresh and sound, and the heaviest that can be had. The Plant which produces them is wholly unknown to us. *Herman*, in his *Cynosura Materiae Medicæ*, calls it *Curane*, and says it is of the climbing Kind, and approaches to the *Smilax*; but this is a very imperfect Notice of it. It is not easy to say at what Time the Cubebs now in Use in the Shops were first known, but it is very evident that they were not known to the antient *Greeks*. Many indeed pretend that the *Carpesion* of *Galen* is our Cubeb, and that the round Pepper of *Theophrastus*, the Pepper of *Hippocrates*, were all Names for them, but this is a Conjecture founded on a very bad Basis. The *Arabians* are at the Head of these Blunders. *Serapio* has translated all that *Galen* says of *Carpesion*, into his Chapter of Cubeb, and attributed all its Virtues to it; and has even added every thing to the Account that *Dioscorides* has left us of the *Ruscus*. *Avicenna* is also in the same Error, and calls the *Carpesium* Cubeb; and from these Authors *Aëtarius* and the other later *Greeks* have collected their Accounts. It is plain from all this, that either the *Carpesium* of the *Greeks* and Cubebs of the *Arabians* are the same Thing, or else that the *Arabians* have been guilty of confounding different things in a strange manner together; if the latter be the Case, there is no judging of any thing from what they say; and if the former, it is very evident that our Cubebs are not the same with theirs, that is, with the *Carpesium* of *Galen*; for he expressly assures us, that this was not a Fruit or a Seed, but, as he tells us, a Kind of slender woody Twigs, resembling in Smell and Virtues the Root of the *Valerian*: Nothing is more evident than that the *Carpesium* therefore was either a fibrous Root, or the small Twigs and Branches of some climbing Plant, not a round small Fruit. If the *Arabians* therefore were acquainted with our Cubebs at all, it appears, that not knowing what the *Carpesium* and the *Ruscus* were, they ignorantly attributed the Virtues ascribed by the *Greeks* to these Medicines to these Fruits.

Cubebs abound in a fine thin essential Oil, which may be separated from them in very considerable Quantity by Distillation, in an Alem bic with Water, in the common Way. They are warm and carminative, and are esteem'd good in Vertigoes, Palsies, and in Disorders of the Stomach. The *Indians* steep them in Wine, and esteem them Provocatives to Venery. The Dose is from three

Grains to six or eight, but they are seldom given singly. They stand as Ingredients in many of the officinal Compositions, but are not heard of at present in extemporaneous Prescription.

CHAPTER XIII.

C A C A O,
The Chocolate Nut.

TH E *Cacao* or Chocolate Nut is a Fruit of an oblong Figure, much resembling a large Olive in Size and Shape, but that it is rather thinner in proportion to its Length, and in some Degree approaches to the Almond or Pistachia Nut: It is larger however than either of these last. It is composed of a thin but hard and woody Coat or Skin, of a dark blackish Colour, and of a Kernel within this, filling up its whole Cavity, fleshy, dry, firm and fattish to the Touch, of a dusky Colour, with a Mixture of reddish on the Surface, and of a greyish brown within. It is composed of several irregular and unequal Parts, which however cohere firmly enough together, and is of a very fragrant and agreeable Smell, and of a pleasant and peculiar Taste, with something of the acerb in it. The *Cacao* or Chocolate Nuts are to be chosen fresh, whole, plump and flattish, well tasted and of a good Smell. The Antients were wholly unacquainted with the *Cacao*, it has been only known to us since our making Settlements in *America*; but the first Planters of these Colonies found the Natives well acquainted with its Use and Virtues; they esteem'd it very highly, and not only in great Part lived upon the Drink they made from the Nuts, in the manner we do Chocolate, but also used them as Money in the Purchase of other things. The first Discoverers of them among the *Europeans*, have call'd them *Amygdalæ pecuniariæ*, the Money Almonds. The *Indians* distinguish them into several Kinds: *Hernandes* enumerates four Species of them very different in Thickness, but all tasting alike, and all serving for the same Purposes. We have also four Kinds brought over to us, which differ in their Thickness and some other Peculiarities. The *Nicaragua Cacao* is of two Kinds, the greater and the smaller, commonly call'd the greater and smaller *Caracca Cacao*; these are both dryer than some other Kinds, but of a finer Flavour; and the greater and the lesser *Cacao* of the *Antilles* Islands: This is in both Kinds much more fatty than the *Caracca* or *Nicaragua* Kinds, but it is of a less agreeable Flavour. The large *Nicaragua Cacao* is the finest of all the Kinds, and the smaller *Antilles Cacao* the worst.

The Tree which produces the *Cacao* is of the number of the *Polyadelphia pentandria* of *Linnaeus*, and of the *Arbores Pomiferæ fructu Corticoso molliore* of Mr. Ray. The Trees which afford the four different Kinds of it, have no other Difference from one another except what is in their different Height and the Thickness of their Leaves, and Largeness or Smallness of their Fruits; and as these are Differences that may easily be conceiv'd to arise from the different Soil and Situation in which the Tree stands, there is but little Grounds for supposing the Trees different in Species.

The *Cacao* Tree is not very tall, but it grows very regularly, and is in its natural Form very beautiful, and particularly so when loaded with its Fruit.

Its

Its Stem is of the Thickness of a Man's Leg, and grows but to a few Feet in Height. Its Bark is rough and full of Tubercles: Its Leaves are six or eight Inches long, half as much in Breadth and pointed at the Ends. The Flowers stand on the Branches, and even on the Trunk of the Tree in many Places in Clusters, and each has its own Pedicles, which is an Inch or sometimes considerably less in Length. They are small, of a yellowish Colour, and are succeeded by the Fruit, which is large and oblong, resembling a Cucumber five, six, or eight Inches in Length, and three or four in Thickness. It has, in the manner of our Melons or Cucumbers, nine or ten Ridges running its whole Length, and is very rough and full of little Protuberances between them: It terminates finally in a Point. It is at first of a whitish green, afterwards it grows yellowish, and when fully ripe it is purple, but still has many Spots of yellow remaining on it. It grows on a Pedicle of the Thickness of a Goose Quill. When cut transversely it is found to consist of two several Barks or Rinds, the outer of which is thick and yellowish, the inner one is whitish and much thinner than the other; these together form a Cavity, within which are lodg'd the *Cacao* Nuts already described, usually about thirty in each Fruit. This Tree flowers twice or three times in the Year, and ripens as many Series of Fruits. It is frequent in *New Spain*, and some other Parts of *America*, and thrives best in shady Places, Woods and Thickets: The great Value of the Fruit however has taught People to cultivate it in great abundance, and it well rewards their Toil, though the Fruit is never so fine as when it grows wild in the Forests.

Cacao Nuts chymically analysed yield, by Distillation in the Retort, a moderate Quantity of an acrid Phlegm, giving Proofs of its containing both an acid and an alkaline Salt, but it yields its Oil in greater Quantity even than this Water: This Oil is thin and pellucid while warm in the Vessels, but it afterwards congeals into an opaque Matter as thick as Butter, and of an acrid Taste and pungent Smell, and reddish Colour. The black Coal remaining in the Retort will yield, by Lixiviation, about a Dram and a half of fix'd Salt from a Pound of Nuts. They abound so vastly in Oil, that it is not only by Distillation that they yield this vast Quantity of it, but they easily part with it in abundance by Expression, and by boiling: Near a third Part of the Weight of the Nuts may be obtained in Oil by these Methods, first bruising and pressing them warm, and after all the Oil that will run is separated that Way, boiling them till a fresh Quantity swims on the Water.

Chocolate or any other Preparation of the *Cacao* Nut is very nourishing, but it is an Incrassant, and therefore it is not to be taken too freely. The *Mexicans* mix Spices of several Kinds with it in the making their Chocolate from it, and in *Europe* we generally mix *Vanillas* with it, and sometimes also Ambergrease and Cinnamon. People who are very nice in the Manufacture of their Chocolate, and understand the Choice of the Nuts, do not use the *Nicaragua* Kind alone, because they esteem it too dry, but mix about half the Quantity or a little less of the *Antilles Cacao* which is fatter with it, and find the Chocolate vastly better this Way than if made of either Kind alone. Chocolate is restorative, stomachic, and is by many reckoned a Provocative. The more the Nut has been heated in the making into Chocolate the more heating it is in the Body and the less nutritive. It has been sometimes prescribed as an In-

gredient in the restorative Electuaries, but the far better Way is that of taking it in the common liquid Form.

CHAPTER XIV.

VANILLA,

The Vanilla.

THE *Vanilla*, or, as some call it, *Aracus Aromaticus*, is a Pod of a Plant containing its Seeds, and is brought to us entire, and with the Seeds in it. We meet with it five or six Inches long, about half an Inch broad, or less than that, and not rounded, but compressed side-ways. It is of an uneven, furrowed, and wrinkled Surface, though smooth and glossy in the intermediate Spaces; of a reddish Colour, soft, tender and unctuous to the Touch; and is composed of a thin and friable Membrane, supported by certain longitudinal Fibres, and containing within its Cavity a reddish pulpy Matter, in which there are lodged an almost innumerable Quantity of minute and glossy black Seeds. It is of a very highly aromatic and perfumed Smell, somewhat like that of Balsam of *Peru*, but more agreeable, and of an acrid, unctuous, and aromatic Taste. *Vanillas* are to be chosen fresh, soft, and unctuous, not too dry or friable; of an agreeable Smell, and of a dusky reddish Colour. Our Druggists have a Way of recovering their lost Unctuousity with oiling their Surface; but this is easily discovered by a Person who has been once advised of it. We sometimes meet with Pods of the *Vanilla* which look as it were mouldy, and are in Reality covered with fine long *Spiculæ* or Efflorescences of a greyish Colour, looking like the Shoots of Flower of *Benjamin*; these are only CrySTALLIZATIONS of the essential Salt of the Pod; and for present Use, no Pods are to be preferred to such as are most covered with them.

We meet with what are called three Species of the *Vanilla* in the modern Shops; the first has thicker and shorter Pods, and is called by the *Spaniards*, *Pompona* and *Bona*; the second has longer and slenderer Pods, and is called the genuine or legitimate *Vanilla*; the third is smaller than either of the other, and is called *Scinarona*, or the spurious *Vanilla*. The first of these Kinds is of a very strong, though not altogether pleasant Smell; it is apt to give People the Head-ach, and to throw weak Women into the Vapours, only by smelling it. The pulpy Matter in this is usually thinner than in any of the others, and the Seeds considerably larger, not much less than Mustard Seed; the third or small Kind has less Smell than either of the others, and contains much less in Proportion both of the pulpy Matter and of the Seeds. The second is the only Kind that is properly to be used. We are not certain that these are not the Produce of three several Plants, though it is generally believed, they are the Fruit of the same Species gathered long before ripe, when half ripe, and when fully ripe.

The Plant which produces that which we use however, we know to be of the Number of the *Gynandria Diandria* of *Linnaeus*, and of the *Frutices siliquosæ Floribus difformibus sive Papilionaceis* of *Ray*. It is described by *Plumier* under the Name of *Vanilla Flore viridi et albo Fructu nigricante*, and by *Ray* under that of *Volubilis siliquosa Americana folis Plantaginis*, and the Fruit by that of *Lobus Oblongus Aromaticus* among the older Authors. It creeps upon the Trees near which it grows, and covers them to a great Height; its Leaves are ten or twelve

twelve Inches long and resemble those of Plantain, and are placed alternately on the Stalks ; the Flowers are small and of a greenish white Colour. This is the Description of the *Vanilla* Plant of *St. Domingo* ; and this agrees perfectly with the true *Mexican* Kind, except that the Flowers of that are blackish and the Pods more scented ; the Species seems the same, and the little Variation we find in the Plants owing entirely to the Soil. The Pods of the *Vanilla* are gathered from *September* to *December* for Use ; they are full of a superfluous Moisture when fresh, which would make them liable to rot, but that they are dried carefully for a Fortnight or three Weeks before they are packed up.

The high Perfume of the *Vanilla* is easily extracted by Spirit of Wine ; a short Infusion in this *Menstruum* serves to give it a very rich and high flavoured Tincture, and the remaining *Vanillas*, when the Liquor is thoroughly pressed from them, have no Smell.

Chemically analysed, the *Vanilla* yields a very large Portion of an aromatic essential Oil, a moderate Quantity of an acid Phlegm, and a small Portion of an urinous Liquor, and a fixed Salt.

Vanillas are accounted cordial, carminative, stomachic, and restorative ; they are warm and strengthen the Stomach, and are diuretic, and promote the *Menses*. With all these good Qualities however, we are not very fond of them in Medicine, but they are a common Ingredient in Chocolate.

CHAPTER XV.

C A F F E A, *Coffee.*

C O F F E E is rather used as a Food than as a Medicine ; but it has too many medicinal Virtues to let it be omitted in a History of the *Materia Medica*. It is a Fruit of an irregular Figure approaching to an oval or semi-oval Form ; it is smaller than a Horse Bean, and is of a remarkably tough and hard Texture. It is elevated or prominent on one Side and flatted on the other ; and all along the Middle of this flatted Part there runs a deep and large Furrow. It is moderately heavy, of a very close and compact Texture, hard to cut or break before it is roasted, and is of a pale greyish Colour, sometimes with an Admixture of greenish in it. We have properly two Species of Coffee brought into the Shops ; the one is thicker, heavier, and of a paler Colour, and is brought from *Mocha* ; the other is thinner, and generally of a greenish Cast ; this is brought from *Grand Cairo*. Both Kinds have the same Qualities, neither of them has much Smell till roasted ; and both are of a farinaceous leguminous Taste while raw.

Coffee is to be chosen firm, solid, and large, not easily broken, sufficiently dry, and of no bad Smell ; what is damp or musty may be sometimes reduced to a tolerable State in the roasting if not too far gone, but it is never equal to the more perfect Kind.

Coffee was wholly unknown to the ancient *Greeks*, and even to the *Arabian* Writers ; the earliest Knowledge of it is of about three hundred and fifty Years standing ; and it has not been used so much as a third Part of that Time

Time in *Europe*. There are some indeed who suppose the *Buncos* of *Avicenna* to be our Coffee, but there is no good Ground for that Opinion. The Coffee however was some time known before we knew any thing of the Tree which produced it. *Prosper Alpinus* mentions it as resembling the *Enonymus*, and others talk more wildly of it. We owe the real Knowledge of it to the *Dutch*, who procured some Slips of the Tree to be sent from *Mecca*, and propagated it in the *Amsterdam* Garden, since which Time it has been brought into many other Parts of *Europe*; and at present is not uncommon in the Stoves of our own Country.

It is a Shrub of the Number of the *Pentandria Monogynia* of *Linnaeus*, and of the *Arbores Fructu dipyrino* of Mr. Ray. It was first well described by *Jussieu*, under the Name of *Jasminum Arabicum Lauri folio cujus Semen apud nos Caffé dicitur*. It grows to eight or ten Foot high; the Branches always grow in Pairs out of the Trunk, and are flexible, round, knotted, and placed opposite the one to the other; the Leaves stand on short Pedicles, and are not unlike those of the Bay, but of a thinner Structure; these as well as the Branches always stand in Pairs; they end in a long and slender Point. The Flowers stand in the *Alæ* of the Leaves three or four together; they somewhat resemble those of the *Spanish* Jasmine, and stand on short Pedicles; these are succeeded by the Fruit, which is a round and soft Berry, green at first, and afterwards red, and when thoroughly ripe of a blackish purple. The Pulp of this is of an insipid Taste when fresh, but if dried, it acquires a Kind of Tartness, and resembles the dried Prunes in some Degree; within this are contained two of the Seeds, which are what we call Coffee, they are placed with their flat Sides together. In *Arabia Felix* and *Æthiopia* the Coffee Tree is full of Flowers and Fruits all the Year round; they gather the Berries twice or three Times in the Year; they lay them in the Sun till dried, and then the Pulp and the Skin easily separate from the Seeds on rubbing. It has been supposed that beside this they use the Caution of scalding them in Water to prevent their growing any where else, but this is erroneous; the Matter of their not growing when sown is only owing to this, that it is necessary to have them perfectly ripe, and to plant them immediately from the Tree, in order to their succeeding any where.

Coffee distilled by the Retort, yields first an insipid and inodorous Phlegm; then a smaller Quantity of an austere and subacid Liquor; after this another Liquor acid and austere, and containing both an acid and an urinous Salt; and finally a thick Oil like Butter, in the Quantity of near three Ounces from the Pound: The Remainder in the Retort, burnt and lixiviated, will yield an alkaline Salt about the Quantity of three Drams to the Pound. The Virtues of Coffee as a Medicine are as a Stomachic and Aperient; the best Method of taking it is in the usual Way of Decoction as we drink it for Pleasure. It is found to assist Digestion, and to be good against Flatus's, and a Custom of drinking it to be of Service against habitual Suppressions of the Menfes, and against sleepy Disorders of many Kinds; it attenuates and dissolves the inspissated Humours, and always proves diuretic, and sometimes gently cathartic.

CHAPTER XVI.

AMYGDALUS,

Almond.

THERE are two Kinds of Almonds used in the Shops, and distinguish'd, according to their Taste, into the sweet and the bitter.

AMYGDALUS DULCIS,

The Sweet Almond.

The Sweet Almond is a Fruit sufficiently known, it is of an oblong and flattish Figure, from half an Inch to an Inch in Length, and about a third or a little more of its Length in Diameter the broad way; it consists of a white, soft and tender *Nucleus*, of a pleasant, sweet, and oily Taste, cover'd with a thin brownish Film or Rind, which is rough on the Surface, and seems cover'd all over with a resinous Powder in somewhat large Granules. Sweet Almonds are to be chosen new, large, and plump, and of a pleasant Taste.

The Tree which produces them is one of the *Icosandria Monogynia* of *Linnaeus*, and of the *Arbores pruniferae* of Mr. Ray. It is described in all our botanical Writers, under the Name of *Amygdalus sativa*, *Amygdalus dulcis*, and *Amygdalus fructu majori dulci*, and is the *Nux græca* of *Cordus*. The Wood of it is hard and reddish, the Leaves are long, narrow, and serrated at the Edge, the Flowers are of a pale red and very beautiful, and the Fruit is of an Inch or two in Length, and of a somewhat flattened Figure pointed at each End, and form'd of a tough spongy Matter, surrounding a hard Stone pointed at each End, the Kernel within which is the Almond.

The Tree is a Native of some of the warmer Parts of *Europe*, but it is cultivated for the Sake of the Fruits in many Parts of *France* and *Italy*, where there are Orchards, and even whole Fields of it; and from whence we are supply'd with the Fruit.

Beside this, which is the true *Amygdalus dulcis*, or Sweet Almond of the Shops, we meet with two other Species sometimes there; these are, 1. The small Sweet Almond, which is the Fruit of the *Amygdalus sativa fructu minori* of *Caspar Baubine*, and 2. The soft shell'd Almond, which is the *Amygdalus dulcis putamine molliore* of the same Author. The former of these differs from the common Sweet Almond only in Size, the latter is much thinner shell'd, and has somewhat of the sweet Scent of the Violet.

Sweet Almonds, analysed by Distillation in the Retort, yield first a small Quantity of a limpid scentless and insipid Phlegm, after this a much smaller Quantity of a Liquor still limpid, but of an unpleasant Smell, and a subacid austere Taste; after this a Quantity equal to the first, that is of about an Ounce to the Pound of a Liquor, at first limpid, then reddish, then brownish, containing an urinous Salt, and then about half the Weight of the Almonds, or a little more, of a thin pellucid Oil. The remaining Matter in the Retort, calcined in an open Fire, yields afterwards a small Quantity of a fix'd alkaline Salt, by Lixivation about twenty four Grains from the Pound of Almonds. The same Fruit distill'd when unripe, yields but a very small Quantity of Oil, and the former, which is produced so copiously from the ripe Fruit, may by repeated

repeated Distillation in the Retort, be separated into a blackish Earth, a mix'd acid and urinous Salt, of the ammoniacal Kind, and Water.

Sweet Almonds bruised afford a fine limpid and well tasted Oil, in very great Abundance; and if beaten to a Paste and mix'd with Water, they give it a milky Colour and sweet Taste; this Liquor will, like Milk, grow sour in time; if Acids are thrown into it, a little Coagulum or caseous Matter may be separated from it; and by continual Agitation, as in the making of common Butter, a little of a truly butyraceous Matter may be separated from it, so that an Almond Emulsion of this Kind may truly and properly be understood to be a thin Milk. Sweet Almonds are nourishing, but they sometimes will not sit well upon the Stomach, when the digestive Power is but weak; they obtund the Acrimony of the Humours, and are in general good in consumptive Cases, moderately eaten and thoroughly chew'd; for if that be omitted the Pieces will be found to come away whole, and unalter'd in the Stools. When they are used in Medicine, they are always to be blanch'd, or to have the outer Kind taken off; and this ought indeed to be done by People of weak Constitutions, who eat them; for the Powder their Skin is cover'd with is of an acrid resinous Kind, and often irritates the Mouth and Throat, and occasions Coughing.

The Emulsions made with Almonds are diuretic and anodyne, and are of great Use in Fevers attended with Heat of Urine, and Signs of Inflammation in the Kidneys and Bladder, or with Diarrhœas, Dysenteries, and Hæmorrhages, and are very good for consumptive People, especially in Case of colliquative Sweats, as they supply many of the good Offices of Milk, when the Stomach will not bear that Fluid; and serve at once as a Medicine and a Food. The Oil of Almonds is of great Use in Coughs, in Obstructions of Urine, in Cholicks, and particularly in Nephritic ones, and in habitual Costiveness. It is indeed one of the best, and at the same time one of the safest Medicines in the Shops. Mix'd with the Pectoral Syrups it makes Linctus's of great Use in Coughs, and with the purging ones it cures Tormina in Children's Bowels. It is of great Use to Women after Delivery to ease their after Pains, and in Pleurifies there is scarce a more instant Relief after the necessary Bleedings.

AMYGDALUS AMARA,

The bitter Almond.

The Bitter Almond is a Fruit extremely like the Sweet in external Appearance, and indeed in all things except in Taste: And the Tree which produces it is no other way distinguishable from that which affords the sweet Kind, but by the Taste of the Fruit.

Bitter Almonds chymically analysed are found to yield, on Distillation in a Retort, first a small Quantity of an insipid and inodorous Water, which however upon nice Experiments is found to contain some small Portion of an acid Salt; this is succeeded by a much smaller Quantity of a still limpid, but disagreeable, subacid, and austere Phlegm, the first in about the Quantity of an Ounce from the Pound of Almonds, the second in not more than a sixth Part of that Quantity; after this comes over a reddish Liquor of an empyreumatic Smell, and sated with an acid and an urinous Salt; there is nearly twice as much of this as of the first Liquor; and after all these there comes a reddish Oil in so large a Quantity, as to be equal to half the Weight of the Almonds

put in; and from the Remainder in the Bottom of the Retort, an alkaline Salt may be procured by Lixiviation, in the Quantity of about twelve Grains from the Pound of Almonds. The Oil of the Sweet and Bitter Almond, produced by this dry Distillation, both are empyreumatic and disagreeable to the Smell; but that of the Bitter Almond is of a more acrid Taste than the other. The Oil drawn by Expression from Bitter Almonds has not the least Bitterness, but is fully as pleasant as that from the Sweet, but it has somewhat more Smell.

Bitter Almonds are attenuant, aperient, and abstergent, they prove diuretic, and are said to destroy Worms. The Oil expressed from them has the same Qualities and Virtues with that of the Sweet internally, but externally it is said to be more resolvent, and is therefore preferr'd; a few Drops of Oil of Bitter Almonds on Cotton are a common Medicine against Deafness; and they often do Service where the Complaint arises only from some of the Wax harden'd in the Passage; but on any other Occasion of Deafness it is idle to expect any thing from such a Remedy. The Cakes left after the expressing the Oil are in Use with some People for washing the Hands; they soften the Skin and are certainly preferable to Soap on that Occasion. It is observed that Birds, and some of the smaller Animals are kill'd by Bitter Almonds, tho' they are harmless to the Human Frame; this has been attributed to the tender Throats of those Animals bearing Bitters but very badly; but it rather appears that they have the same poisonous Quality with Laurel Leaves and other Bitters of that Kind, and that the distill'd Water from them, when of a great Degree of Strength, would prove fatal even to Man if swallow'd in large Doses. People have an odd Opinion of the Effects of Bitter Almonds against Drunkenness, and will take three or four of them before they set down to drinking, by way of Preservatives, but this is not found to have any real Foundation in Fact.

CHAPTER XVII.

DACTYLI,
Dates.

THE *Dactylus* or *Palmula*, which we call in *English* the Date, is a Fruit of an oblong Figure. We meet with them of several Sizes, from two Inches long to less than an Inch; the largest are as thick as a Man's Thumb, or thicker; but others of them are not so thick as the little Finger. They are somewhat of the Shape of an Acorn, rounded and obtuse at the Ends; they are composed of a thin, light, and glossy Membrane, somewhat pellucid and yellowish; which contains a fine soft and pulpy Fruit, which is firm, sweet, and somewhat vinous to the Taste, esculent and wholesome, and within this is enclosed a solid Kernel, surrounded with a white, soft, and tender Membrane, and by it divided from the pulpy Matter, which therefore adheres but loosely to it, and is easily taken off clean. The Kernel is solid, tough, and hard, of a pale grey Colour on the outside, and when cut or broken, it appears of a fine marbled Look like the Nutmeg. In Shape it is oblong and largest at one End, crooked, gibbous and even on one Side, and mark'd with a Furrow dividing longitudinally on the other; the gibbous Side has also a very fine and narrow Line on it, running its whole Length; and in its middle a white

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Point or *Umbilicus*, with a fine white cartilaginous Substance, which penetrating into the very Center of the *Nucleus*, is the Rudiment of the future Tree. The Membrane which covers the whole Fruit is naturally of a yellowish Colour; but it is so thin as to shew the Colour of the Pulp through it, and to appear whitish or reddish, according to the Colour of the Matter within.

Dates are to be chosen for medicinal Purposes, large, full, fresh, of a yellow Colour on the Surface, soft and tender, not too much wrinkled, and such as have the pulpy Part either of a good white throughout, or else reddish toward the Surface, and white toward the Kernel; such as are of a vinous Taste and do not rattle when shaken; such as rattle much on shaking, or appear wither'd, or particularly such as are worm-eaten and decay'd are to be rejected.

Dates are produced in many Parts of *Europe*, but they do not ripen perfectly there; the best and fittest for medicinal Purposes are those of *Tunis* and the Country thereabout; they are also very fine and good in *Egypt*, and in many Parts of the *East*. There are many imported into *Europe*, from *Sallee* in *Africa*, but they are lean and dry, and are not only worse than those of *Tunis* in their best State, but they are also very subject to decay. Those of *Spain* and the *South* of *France* look well, but they are never perfectly ripe, and are very subject to decay.

Dates have been known to the World in all the Ages we have any Account of, and have been long used in Medicine. The *Greeks* called them *Dactyli Phœnices* and *Phœnicobalani*. The *Arabians* call them *Tamar*, and some *Caryote*, and *Caryotides*. The Tree which produces them is described by all the botanical Writers, under the Name of *Palma major*, and *Palma Dactylifera major*, and *vulgaris*: *Prosper Alpinus* calls it *Palma Dachel*. The Root of this Tree penetrates deep into the Earth, and sends out many creeping horizontal Fibres also just under the Surface. The Stem is small and undivided, and of the same Thickness all the way, except near the Top, where it grows gradually a little smaller. It has no Bark or Rind, but is defended from Injuries by the Rudiments of Leaves, which stand every where round about it. It is composed throughout of parallel longitudinal Fibres. The central Part of the Trunk in the young Trees is tender and esculent, especially near the Head, in the old ones it becomes harder than the rest and woody. The Head of the Tree is composed of a Multitude of young Leaves conglobated together in the Center, and of other larger ones hanging in different Degrees of Reclination from it. The Flowers and Fruits grow in Clusters from the *Axæ* of these Leaves; the male Flowers on some Trees, and the Female and Fruits on others, tho' of the same Species. The Leaves are perennial, of the pinnated or composite Kind, and consist of long and narrow *Pinnæ*. The Palm loves a hot and dry Country, and a sandy light soil; the Fruit is gather'd three times in the Season, in *July*, *August*, and *September*, as it ripens more and more. They are preserved in three different ways; some pressed and dry, others pressed more moderately, and again moisten'd with their own Juice, and others not pressed at all, but moisten'd with the Juice of other Dates as they are pack'd up; which is done in Baskets or in Skins. The Dates preserved in this last way are infinitely the best, and are what the *Greeks* called *Phœnicobalani*, distinguishing them by that Name from the common dry'd Dates, which had only been gather'd a little before they were ripe, and strung up for drying. Dates have always been

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esteemed moderately strengthening and astringent ; they are prescribed for Diarrhœas that are habitual, for Weaknesses of the Stomach, and for strengthening the Womb ; but at present we make little Use of them in *England* : they used to be an Ingredient in the pectoral Decoctions, but they are now left out even of those.

CHAPTER XVIII.

F I C U S,
The Fig.

THE *Ficus*, or *Ficus Passæ* of the Shops, or as some call them *Caricæ*, are the Fruit of the common Fig Tree gathered when moderately ripe, not too mellow, and carefully dried in the Sun before they are packed up. They consist of a tough and moderately thick Membrane, deeply striated in a longitudinal Direction, containing a pulpy Substance, and small round Seeds. They are of a faintish Smell, but very sweet and pleasant to the Taste ; they should be chosen large, of a pale brownish Colour, soft and mellow, heavy, and when broken with the pulpy Substance yellowish and sweet, and of a soft glutinous Texture.

Figs have been long known in Medicine. The Tree which produces them is one of the *Cryptogamia* of *Linneus*, and of the *Arbores Flore Fruëtuque aggregato* of *Ray*. It is described by all the botanical Writers under the Name of *Ficus vulgaris* and *Ficus Sativa*, and is too well known to need a Description. The Wood of it is white, soft, and spongy ; it had long been supposed to produce no Flowers ; but the Accuracy of later Observers has discovered that it has Flowers contained within the very Fruit itself, but answering all the Purposes of Generation as well as those which we see more obviously. It is singular that the wounding the Fruit of the Fig by Insects, is a great Means of its ripening well. The Ancients were well acquainted with this, and have left us many Accounts of the Manner in which they did it, under the Name of Caprification. *Tournefort*, in his Voyages, gives us an Account of the Manner in which the People of some of the Islands of the *Levant* still perform it. They collect with great Industry the Fruits of the wild Fig, in *June* and *July* ; at which Time, the Worms produced in them by the Eggs of Flies lodged there, begin to change into Flies ; they hang these Fruits on the Branches of the domestic Fig Tree, which they cultivate for its Fruit, and the Flies as they come out of them naturally settle upon the growing Figs about them, and cause them to ripen in much greater Numbers and Perfection than they otherwise would. But this subjects the People to the Trouble of baking these Figs before they dare pack them up for use ; the Heat of an Oven being requisite for the destroying the Principle of Life in the Eggs deposited in them by the Flies, and which would otherwise hatch into Worms and spoil them.

The Experiment has been tried in many other Places, and the Trees on which these Figs have been hung have constantly been observed to ripen more Figs on themselves, than they otherwise would have done, sometimes twice or three Times the Quantity. The Stories of Caprification among the Ancients had been long discountenanced and laughed at, when by *Tournefort's* Means the World found that there was really great Truth and Solidity in them.

The Figs of the common domestic Kind are found to ripen usually about a Month or five Weeks after the Time of hanging the others on the Branches, and such of them as do not ripen in that Time usually fall off and wither.

Figs, as well fresh, as when dry, are very wholesome Food; they are nutritive and emollient; they are good also in Disorders of the Breast and Lungs; but it is to be observed that a too free Use of them has sometimes brought on Obstructions of the *Viscera*, which are very common Complaints also where they are eaten as Food, as they are with Bread, by the poor People in many Parts of the *Levant*. They are frequently made Ingredients in our pectoral Decoctions, and are by some greatly recommended against nephritic Complaints. They are much used externally by Way of Cataplasm, either roasted or boiled in Milk, for the ripening of Tumours, and for easing the Pain of the Piles.

CHAPTER XIX.

PASSULÆ,

Raisins.

RAISINS, called in the Shops *Passulæ* and *Uvæ*, are the Fruit of the Vine suffered to remain on the Tree till perfectly ripened, and then dried either in the Sun, or by the additional Heat of an Oven. Grapes of every Kind preserved in this Manner are called *Passulæ* by Authors, and accordingly they are distinguished into several Kinds, according to the Species of Grape. What we have at present differ, as they are better or worse dried, and are all called Raisins under different additional Denominations, except the small Kind, which, from its *Latin* Name *Uva Corinthiaca*, we call Corinthians or Currants.

The Difference between Raisins dried in the Sun, and those dried in Ovens, is very considerable and obvious. The former are sweet and pleasant, the others have a Whitishness and a latent Acidity with the Sweetness, that renders them much less agreeable. The Raisins of the Sun, and what we call Jar Raisins, from their being imported in earthen Jars, are all of the former Kind, all dried by the Sun's Heat only; and it is always understood, that such, and not those dried in Ovens, are to be used in Medicine.

The finest and best Raisins are those called in some Places *Damascus* and *Jube* Raisins; these are the Fruit of the *Vitis Damascena*, and are distinguishable from the others by their Largeness and Figure; they are flat and wrinkled on the Surface, soft and juicy within, near an Inch long and semi-pellucid when held against a good Light; they have a sweet, agreeable, and vinous Taste, and when fresh and growing on the Bunch are of the Size and Shape of a large Olive. The common Raisins are the Fruit of several Species of Grape, which are better or worse, according as they have been more or less carefully cured.

The *Greeks* called Raisins *Staphulæ*, and distinguished them into two Kinds; but this not according to their different Species, but to their different Manner of being dried. The one Kind, when ripe, were cut off from the Vine and immediately dried in the Sun; these they called *Staphylæ Thelopezæ*, and the other Kind were such as were not taken off the Vine, but only had the Stalks of the Bunch cut half through, or tied hard round with a Thread, and were so left to dry

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on the Tree. These they called by Way of Distinction from the others *Uvæ* or *Staphylæ patetbæse*, but this Difference is not worth attending to, the Raisin being the same which ever Method was taken.

The common Way of drying Grapes for Raisins at present, is to tie two or three Bunches of them firmly together while yet on the Vine, and dip them into a hot *Lixivium* of Wood Ashes with a little Oil Olive in it. This disposes them to shrink and wrinkle, and after this they are left on the Vine three or four Days separated on Sticks in an horizontal Situation, and then dried in the Sun at Leisure, after cut from the Tree.

The Currants, or *Corinthian Passulæ*, are the Fruit of a Vine differing from the common Kinds, in the Smallness of its Grapes, and in the Largeness of its Leaves, which also have fewer and slighter Divisions than those of any other Kind. They are gathered in when ripe and spread thin upon a Floor till tolerably dried; they are then put up in Parcels, where their own Weight and remaining Humidity form them into Cakes, that are hardly to be broken without some Instrument. They are not produced now in the Place where they originally were, but in the Islands of *Zant* and *Cephalonia*, where the Vines that produce them are cultivated in vast Abundance, and to considerable Advantage. They are packed up in Casks and trod firmly down, and if the Air be kept out, will remain good a long Time in them.

All the Kinds of Raisins have much the same Virtues, they are all nutritive and balsamic, but they are very subject to Fermentation with Juices of any Kind; and hence, when eaten immoderately, they often bring on Cholics. They are allowed to be attenuant, and are given in Cases where the Humours are too thick and viscid, and they are said to be very good in nephritic Complaints; they are however too familiar in our Foods to be much regarded at present as a Medicine. They are an Ingredient indeed in our pectoral Decoctions, and in some other Medicines of that Intention; in which Cases, as also in all others where Astringency is not required of them, they should have the Stones carefully taken out. They are used in some Compositions rather with an Intent of taking off the nauseous Taste of other Ingredients, than of doing any real Service themselves.

CHAPTER XX.

BACCÆ LAURI,
Bay Berries.

THE Bay Berry is a dried Fruit of a roundish, but somewhat oblong Figure of the Size of a Horse Bean, and of a tolerably smooth Surface. It is externally of a pale greyish brown Colour, and of a tolerably smooth Surface; light and easily crushed to Pieces, being composed only of a thin membranaceous Covering, containing a double Kernel of a blackish Colour. It is of a fragrant Smell and of an oleaginous and very aromatic Taste; they ought to be chosen fresh, well dried, and of a dark Colour and good Smell. They are very common in many Parts of the World, but what we use are principally brought to us from *Lisbon*.

The Tree which produces them is the common Bay or *Laurus*, which is one

of the *Emneandria Monogynia* of *Linnaeus*, and one of the *Arbores fructu per maturitatem sicco* of *Mr. Ray*. Its Wood is spongy and brittle, its Bark thick, its Leaves remain green all the Winter, and are fragrant and of an aromatic Taste as well as the Berries. The Berries have been greatly esteem'd in Medicine, but they are at present somewhat less used than they have been; they are carminative, emollient and resolvent. They are given internally in Suppressions of Urine and the Menfes, in Cholics, in Pains after Delivery, and in Palsies and nervous Complaints: Externally they are used in emollient Cataplasms and Fomentations, they have been made Ingredients of many of the officinal Compositions, but are now much disused.

CHAPTER XXI.

BACCÆ JUNIPERI,
Juniper Berries.

JUNIPER BERRIES are a roundish Fruit, of the Size of a Pea. They are, while on the Tree, perfectly round and of a smooth Surface, but in drying they become wither'd and wrinkled; and we meet with them variously corrugated, and cover'd usually with a bluish resinous Dust when fresh. They are of a black Colour, and have an Umbilicus at the Top, consisting of three Depressions or Furrows. They are composed of a thin and tender membranaceous Skin, enclosing a soft pulpy Matter of an acrid and aromatic but sweetish Taste, and of a strong but not disagreeable Smell, containing each three oblong and angular Nuclei, of a hard and firm Structure, each of these containing a single oblong Kernel, and to each of which there adheres a little Vessel or Bladder full of a resinous Juice, but this is greatly lost in the drying.

Juniper Berries are to be chosen fresh, plump, full of Pulp, and of a strong Taste; the Tree which produces them is the common Juniper. It is one of the *Diœcia monadelphia* of *Linnaeus*, and one of the *Frutices Bacciferæ* of *Mr. Ray*. It is but a small Shrub with us, rarely growing to more than three or four Feet in Height, and scarce ever exceeding five or six. Its Leaves are small and narrow, prickly at the Ends, of a pale green, and they remain on it all the Winter. Its Wood is of a reddish Colour and resinous Smell. Some of the Juniper Shrubs are Males, some Females of the same Species; the Male Shrubs produce in *April* and *May* a small Kind of Juli with Apices on them very large and full of Farina; the Females produce none of these Juli but only the Berries, which do not ripen till the second Year, and then do not immediately fall off, so that it is no uncommon thing to see three sets of Berries, or the Berries of three different Years at once on the same Tree. It is very common with us on Heaths and barren Hills, but the Berries used in our Shops are brought from *Germany*, where it is greatly more abundant than with us. Juniper Berries, distill'd by the Retort, yield a very large Quantity of Phlegm at first limpid, and smelling and tasting strongly of the Berry; afterwards it grows by Degrees of a more and more acid Taste, then austere, and then reddish and empyreumatic: A small Portion of a fine yellowish Oil follows this, then another Quantity of Phlegm yet more empyreumatic, and impregnated with an urinous Salt: After this a large Quantity of a thick and coarse Oil comes over, and the remaining Matter

Matter in the Retort, calcin'd in an open Fire, affords by Lixiviation a small Quantity of an alkali Salt like that of Tartar. Juniper Berries macerated two Days in Water and then distill'd, yield a large Quantity of a fine essential Oil, with a Water highly impregnated with the true Flavour of the Berry; but if they be kept longer macerating in the Water, they ferment and the Liquor becomes vinous, and if distill'd yields an inflammable Spirit, but no essential Oil.

The *Germans* are so fond of Juniper Berries that they use them in their Cookeries, and few of their common Dishes are without them; they are therefore call'd by Authors *Aroma Germanorum*, *German Spice*. We use them only in Medicine, and find them to be powerful Attenuants, Diuretics, and Carminatives. They dissolve viscid Humours in the first Passages, and consequently are a Remedy for Flatulencies occasioned by them. They are given in Cases of the Gravel, and other nephritic Complaints, in Infarctions of the Viscera, and in Suppressions of the Menses, and are often made Ingredients in Glysters.

They are in some Places esteem'd a sort of universal Remedy, and call'd by the pompous Names of *Panacea* and *Theriaca Pauperum*, but they are not to be given indiscriminately. We often see them counteracting the very Purposes intended to be answer'd by them in hot Habits, and their Use succeeded by Heat, and even Suppressions of Urine, Flatulencies, and Swellings of the Stomach and Intestines, and Eructations. In all Cases where Inflammation is to be fear'd, either in the *Primæ viæ* or in the Kidneys, the Use of Juniper Berries is to be avoided. The Berries chew'd, or the essential Oil taken only in a few Drops, give the Urine the same sweet Violet Scent that it has after the taking of Turpentine.

The *Germans* think them the greatest of all Medicines against Contagion, and hold it almost impossible to receive Infection, even of the Plague, while they have some of the Berries in their Mouth. They are fond of a Rob or inspissated Juice of Juniper Berries prepared by Evaporation, as we value the Rob of Elder. They have also a *Vinum Junipericum*, or white Wine in which Juniper Berries are infused, and the Spirit by Fermentation: We keep no Preparation of them in the Shops except the essential Oil made by Distillation with Water in the usual Way, and this is seldom made at home, but the imported Kind is commonly adulterated with Oil of Turpentine. We used to keep a distill'd spirituous Water of Juniper in the Shops, but the vulgar got an Opinion of its being a pleasant Dram, and consequently the making it became the Business, not of the Apothecary but of the Distiller, who sold it under the Name of *Geneva*; but at present it is only a better Kind that is made with the Juniper Berry, what they commonly sell is made with no better an Ingredient than Oil of Turpentine put into the Still with a little common Salt, and with the coarsest Spirit they have, which is drawn off much below proof Strength, and is consequently a Liquor that one would wonder any People could accustom themselves to drink for Pleasure.

CHAPTER XXII.

BACCÆ MYRTI,

Myrtle Berries.

THE *Baccæ Myrti*, or, as they are generally call'd in the Shops, *Myrtilli*, are a small Fruit of a roundish but somewhat oblong Shape, umbilicated, and of a wrinkled and uneven Surface. They are of a dusky blackish Colour, soft to the Touch, and not very heavy. They are composed of a thin and fine membranaceous Covering which includes a soft pulpy Matter, in which are bedded a number of small, oblong, crooked and whitish Seeds. They have but little Smell, but they are of an austere astringent Taste. They are to be chosen fresh and plump, not too dry, heavy and clean. They are apt to be dusty and Worm-eaten, in which Case they become of Value.

The Shrub which produces them is one of the *Icosandria Monogynia* of *Linnaeus*, and of the *Frutices bacciferæ umbilicatæ* of Mr. Ray. It is described by the botanical Writers under the Name of *Myrtus vulgaris*, *Myrtus Bætice Sylvestris*, and *Myrtus Communis Italica*. It is a small Shrub, rarely rising to more than four or five Feet in Height: Its Leaves are small, oblong and pointed, and they remain green the whole Year. The Flowers are white, and the Berries green at first, but as they ripen they become blackish. It is the most common of all the Myrtles preserved in our Green-Houses, and is very common wild in *Italy*.

The Berries of the Myrtle are esteem'd cooling and astringent: They are recommended in Gonorrhœas and in Diarrhœas, Dysenteries, and Hæmorrhages of all Kinds, but they are little used at present.

F R U I T S

Less frequently used in MEDICINE.

CHAPTER I.

ANISUM STELLATUM,

Starry headed Anise.

THE Name Anise is very improperly given to this Fruit, which must needs be the Produce of a Plant very different from any thing of the Anise Kind. Its Smell somewhat resembles that of the common Aniseed, and thence People, unacquainted with botanical Distinctions, have ventur'd to give it that Name, with the Addition of the Epithet *Stellatum*, Starry, to characterise its peculiar Shape.

It is a Seed brought over to us in its Capsules, which are of a very singular Figure. The whole Fruit, or *Anisum Stellatum*, as it comes to us, is of the Figure of a radiated Star; it consists usually of five or six, sometimes of seven *Radii*, each being one Capsule, and all being joined at the Base or Pedicle. Each of these Capsules is half an Inch or more in Length, and of about half or a little more than half their Length in Thickness: They are of an irregularly triangular Figure, largest at the Base, and growing gradually smaller to the Point, and are somewhat compress'd or flattened. These Capsules are composed of two Coats, the outer one hard and firm, rough on the Surface, and of a deep Orange Colour or brownish red; the other much harder than this, perfectly smooth and glossy, and of a paler Orange Colour, or brownish yellow. These Capsules are closed on every Part at first, but when thoroughly ripe they split longitudinally in the Angle at Top, and each is then found to contain a single Seed, which is of an oblong and somewhat compressed Figure, of a perfectly smooth and glossy Surface, and of a brownish Colour, but with some Mixture of the Orange Tinge in it. This is composed of a thin Coat or Covering, under which there is a white pulpy Matter of an unctuous or oily Nature like the Pulp of an Almond, and of a Taste between that of Aniseed and sweet Fennel, but much stronger than that of either of them. The Capsules have more of the Fennel and less of the Anise Flavour, but are much less strong than in the Seed itself.

This Fruit is brought to us from the *Philippine* Islands, and from *China* and some Parts of *Tartary*. The Tree which produces it is described by *Plukenet* under the Name of *Euonymo affinis anisum spirans nuculas in capsulis stelliformiter dispositis proferens*; and by *Camelli* under that of *Pansi Pansi*. Some of the older Writers were well acquainted with the Seed under the Name of *Anisum Stellatum* and *Badian*. Some of them also call'd it *Zingi* and *Feniculum Sinense*; they have also given us Figures of the Seeds and their Capsules, several on the Tips of the various Branchings of the same Bough, but they knew nothing of the Tree which produced it. It grows to fifteen or twenty Feet high: Its Trunk is large and its Branches very spreading and numerous. The Leaves are of the composite or pinnated Kind, eleven, thirteen, or fifteen usually growing on one middle Rib; they are four or five Inches long each, an Inch or more in Breadth, and are serrated at the Edges. The Flowers are white and small, and stand in Clusters at the Tops of the Branches. They are full of Filaments or Stamina, and are succeeded by the starry Fruit before described.

The Seed yields a limpid and fine Oil, either by Distillation with us, or by Expression while fresh; this much resembles the Oil of Aniseed, but that it is of a more fragrant Smell, and is not so liable to congeal in cool Weather. Its Virtues are the same with those of the Aniseed, and it is used by the People of the *East* both in Foods and Medicines. It is stomachic, carminative, and diuretic. The *Chinese* take a Seed or two of it usually in their Mouths after eating by way of assisting Digestion. They give it in Infusion along with their *Gineng*, in order to give them Strength and Spirits, and excite them to Venery, as also to cure all Disorders of the Viscera. They recommend it greatly also as a Preservative against the Stone, and when they have no immediate Occasion for its Virtues they put it into their Tea and Coffee, merely because of its good